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Pathology and Etiology of Polyps and Carcinoma of the Rectum.*

By Charles Edward Dowman. Jr., M. D.

Birmingham, Ala.

Pathologist to St. Vincent's Hospital.

By the term polyp, as I understand it, we wish mainly a brief consideration of the true benign neoplasm, and not so much of the small multiple polypoid excrescences found in chronic catarrh of the rectum. These latter, however, may be mentioned briefly before taking up the true neoplasmic variety. As we all know chronic catarrh of the rectum is characterized by a proliferation of the inter-glandular connective tissue, and even, in the severer forms, of the submucous connective tissue. Thus we have resulting a thickening and puckering of the rectal mucous membrane into small warty like, broad or narrow pedicled excrescences—the so-called "proctitis proliferans polyposa." The body of these inflammatory polyps consists of young inflammatory connective tissue,—granulation tissue. They are covered with a layer of cylindrical epithelial cells. Sometimes on account of the inflammatory irritation there is a simultaneous enlargement of the glands of Lieberkuehn with accompanying cystic degeneration. Under the injuring influences of the intestinal contents ulceration may follow, with sometimes an inflammatory infiltration of the deeper layers of the rectum with subse-

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quent stricture formation. The chronic proctitis arises out of the acute catarrh which in turn may be caused by a variety of agents, namely, bacterial infection or chemical irritation from the misuse of purgatives such as aloes, jalap, etc. Likewise gout and cold are considered by some as etiological factors, while most surgeons give more weight to mechanical causes, such as injuries, foreign bodies (stagnating fecal masses), etc. Again, enemeta which are too hot, scratching with the finger nails in cases of pruritis, pin worms, etc., may be mentioned. Most frequently, however, rectal catarrh is a secondary condition accompanying the various organic rectal diseases (hemorrhoids, prolapse, carcinoma, etc.).

Taking up the true neoplasms we have several varieties of rectal polyps to consider.

1. First we have what Virchow termed a "papilloma of the rectum." Esmark speaks of the same variety as "villous" polyps. This is a rather uncommon condition. They consist of lobulated cauliflower like growths having numerous villous projections and a short broad pedicle or base. They have a very soft consistency and vary from the size of a pea to that of a hen egg. Each individual villous consists of a connective tissue frame work in which are small blood vessels, and is covered by a single layer of cylindrical epithelial cells. They are from a prognostic as from a pathological standpoint benign growths, though a certain tendency to carcinomatous degeneration should be recognized. Thus in a reported series of forty cases there were three cases in which a carcinomatous degeneration had taken place. They appear, in contradistinction to the second variety of rectal polyps which will be considered, practically never in children. Thus in fourteen cases reported by Quenu the youngest patient was twenty-eight years of age while the oldest was seventy-three years old, the majority being between forty and sixty years.

2. As a second variety of rectal polyps let us consider the so-called mucous polyp or adenoma. This is the mest frequent type which one is apt to see. They usually occur singly, are from pea to hen egg in size, hang by a distinct pedicle, and have the color and shape of a strawberry. Within the pedicle are blood vessels which furnish the polyp with an abundant blood supply. The polyp itself is covered with cylindrical celled mucous membrane beneath which are found numerous

hypertrophied tubular glands of Lieberkuehn. These glands are usually filled with mucous, some of them even assuming a cystic character. They are surrounded by an oedematous connective tissue containing numerous young spindle shaped fibrous cells. Embedded in this connective tissue are numerous thin-walled blood vessels. These tumors are most frequently found in children and young individuals.

Occasionally in polyps of this variety the connective tissue may develop at the expense of the glandular elements, the latter even undergoing complete atrophy. This gives rise to a third variety of polyps which are sometimes found in the rectum, namely:

3. Polypoid fibromata. These small fibromata, which are very much like the small skin fibromata which one often sees, usually appear in the rectum as multiple tumors of a chronic nature. So far, there are only eighteen such cases reported, in which not only the whole mucous membrane of the rectum but likewise large areas of the large intestine were covered with masses of these polypoid growths. Most of the tumors were only of pea size, but among these smaller growths were usually found quite a number of larger walnut sized polyps. The condition is such as to deserve the often used term "villous rectum." Koenig reports a case of this variety where a carcinoma had later developed from this originally benign condition. Smith reports the condition as occurring in three brothers and sisters one of whom died later of carcinomatous degeneration of the tumors. In these cases many of the smaller growths belonged to the adenomatous type. Langenbeck also reported the condition as occurring in three brothers and sisters, while Buckersteth observed it in mother and son. This class of tumors occurs likewise principally in children and younger individuals. Of the eighteen reported cases, only a very few were over thirty years of age.

4. A fourth variety of polypoid tumors which is not mentioned in the classifications usually given is the pedicled myoma. Such tumors occur occasionally. Like the other three varieties they are covered by mucous membrane, but the body of the tumor is composed essentially of smooth muscle fibres. Keonig observed in a man such a tumor projecting into the rectum from its prostatic wall. It was distinctly pedicled and was as large as an apple. Examination after removal showed it to be a myoma. He reports a similar case in a girl where a cherry

sized myoma projected from the posterior wall of the rectum. Senn once reported a so-called fibromyoma weighing 12 pounds, which he removed from the anterior wall of the rectum. This tumor, however, projected into the abdominal cavity and not into the lumen of the rectum. Whether it belonged to the same variety of tumors which Koenig reports or not is difficult to say.

As to the etiology of polyps of the rectum, there is little that is definite to say. Certainly the second and third varieties suggest a congenital or hereditary disposition to say the least. Again the second type, namely, the adenomatous polyps, in their histological picture are not entirely unlike the inflammatory polyps occurring in chronic proctitis. Yet one must be careful not to put too much weight on this point, for it is always difficult to say whether the chronic rectal catarrh is a cause or a result of the polyp formation.

Carcinoma of the rectum, although more frequently met with than is the class of tumors just considered, is still, comparatively speaking, an uncommon disease. Acording to Christen it constitutes only 0.29 per cent of the various causes of death.

Most cancers of the rectum are cylindrical celled carcinomata and the pathological classification into the various types depends chiefly on their histological variations. From a practical standpoint, however, the more useful classification is based not so much on the microscopic appearance as upon what portion of the rectum is involved. This will be mentioned after viewing the tumors in a purely pathological light.

The benign adenoma has already been spoken of as one of the varieties of rectal polyps. Such tumors, as long as they retain their benign character confine themselves in their development strictly to the mucous membrane. An originally benign adenoma, however, has been known to overstep its natural confines and break through into the submucous and deeper intestinal layers, changing its character into one of lawless development. Such growths although at times retaining histologically the original benign anatomical structure, may give rise to metastases, and assume in every clinical detail a malignant role. Should one examine a portion of such a tumor microscopically he would be unable to say whether the tumor is actually benign or malignant. The diagnosis would depend in such a case upon whether the tumor in its

growth had broken through into the submucous tissue or not. Orth speaks of such a tumor as *adenoma malignum* in contradistinction to the *adenoma benignum*—the benign adenomatous polyp. Although as just mentioned, the microscopically benign anatomical structure may be retained where a benign adenoma becomes malignant, still such can hardly be called the rule, but is rather the exception. Usually the single layer of cylindrical epithelial cells become doubled and tripled, the nuclei of the cells themselves becoming irregular in shape and size, the goblet cells disappearing,—in short the whole microscopic picture becomes definitely malignant in character. We now have the typical picture of adeno carcinoma.

The development of adeno-carcinomata, however, does not in the least presuppose the existence first of an adenoma malignum, for such is only true in a small percentage of the cases, the majority being adeno carcinomata from the very beginning of their development. They are by far the most frequent variety of cancer of the rectum. They may be either hard or soft according to the amount and denseness of the connective tissue between the atypical glandular elements.

The firmer, more slowly growing type, begins usually as a nodule in which histologically the development from the glands of Lieberkuehn can be recognized. Only in the upper layers, however, for deeper down the glands are atypical, enlarged, containing epithelial projections, while the membrana propria has disappeared and the muscularis is broken through, the parenchymatous tissue being everywhere embedded in connective tissue containing infiltrating small round cells. Sometimes in portions of the tumor small cysts may develop.

In the softer or medullary variety, the glandular type is usually almost if not entirely lost, the picture nearing the alveolar type. Here the cylinderical cells have become polymorphous and fill up the round alveolar spaces. The further removed the type of tumor development is from the normal, the more malignant is its character. Thus the alveolar carcinoma is the most malignant of all cancers of the rectum. This variety tends likewise to early and rapid necrosis.

In the alveolar carcinomata the connective tissue frame-work and the epithelial elements may undergo a colloid degeneration, giving rise to the so-called *colloid carcinoma*. A peculiar characteristic of this varie-

ty of cancer is the tendency to extensive involvement of the whole rectum.

When the connective tissue elements in the carcinoma have developed at the expense of the epithelial elements, the latter appearing as small areas of cancer cells embedded in the dense connective tissue we have what is commonly spoken of as *scirrhus carcinoma.* Such tumors tend to form a ring like constriction of the whole intestinal lumen with a subsequent folding of the contiguous mucous membrane.

Melanotic carcinomata likewise occur occasionally in the rectum. There were three such in the sixty-nine rectal carcinomata in the Goettinger clinic.

Unfortunately we seldom see carcinoma recti in the earlier stages. Like all intestinal cancers, they have a great tendency to early necrosis of the central portion. So arises in the middle of a more or less flat neoplasm a crater like ulcer with irregular ground and a dark red, in places greenish gray color. Although the ground of the ulcer may have a hard consistency, still, the examining finger can easily bore, as it were, into the tumor substance. This is not the case when palpating the hard scar tissue ground of a syphilitic ulcer. The edges of the carcinoma ulcer are firm and stand out much higher than the neighboring healthy mucous membrane. Cancer of the rectum occurs singly as a rule. Occasionally, however, a second or even a third carcinomatous nodule may be found in the rectum itself. Whether these are independent growths entirely or mere implantations from the primary tumor cannot be said definitely.

The more practical classification of cancer of the rectum depends upon what portion of the rectum is involved. Thus we find that:

(1) In the ampulla of the rectum according to the statistics of Gussenbauer fully 65 per cent. of all cancers of the rectum are found. Microscopically these belong almost entirely to the adeno-carcinoma type, sometimes the medullary and sometimes the fibrous form. They occur principally just above the internal sphincter, and arise in the order of their frequency from the anterior wall and the posterior wall, and most seldom of all from one of the side walls of the rectum. In the later period of their development they involve the whole circumference of the intestine. Thus according to Mickulicz fully three-fourths of this class of tumors are circular when they come under the observation of the surgeon.

(2) In the second group of cases the tumor is situated high up in the rectum near the sigmoid flexure. Some 23 per cent of the cases belong to this class. They belong usually to the scirrhus type and early in their development become circular, thus causing early symptoms of stenosis.

(3) The third and most seldom group are those tumors which have a tendency to infiltrate practically the whole rectum. To this group belong chiefly the alveolar and colloid carcinomata.

Despite statements to the contrary in regard to the involvement of lymph glands in carcinoma recti, the best authorities agree that lymph gland involvement at the time when patients present themselves for operation has in fully two-thirds of the cases already taken place. They occur chiefly on both sides of the posterior wall of the pelvis. After an involvement of these glands has taken place the glands in the mesocolon soon become affected. Metastases may likewise occur in the various organs, especially in the liver. This, however, seems to be a less frequent occurrence than in cases of carcinomata of the stomach.

Carcinoma recti occurs chiefly in older individuals, although it is not a rare exception to find them in persons under thirty and even occasionally under twenty years of age. In Hildebrand's Goettingen series 16 per cent occurred before forty years of age, 54 per cent between forty and sixty years and thirty per cent between sixty and eighty years. Colloid carcinomata seem to be almost without exception in young individuals. Thus in Funke's statistics in twenty-one cases of colloid carcinomata of the rectum only one existed in a patient over thirty years of age.

The disease seems fairly well divided between the two sexes. The growth extends not uncommonly to surrounding organs, viz: the vagina, peritoneum, and bladder in women, and prostate and bladder in men. In the large majority of cases of carcinoma recti this involvement of surrounding organs has already taken place when the patient comes under the observation of the surgeon. The average length of life of unoperated cases is four years after the first appearance of symptoms.

The fact that the growth is found usually just above the internal sphincter or just about the point where the sigmoid flexure goes over into the rectum may possibly throw some light on the etiology. Thus the tumor seems to develop more frequently where in many people there

is a congestion of feces, where marked venous congestion occurs, and where the mucous membrane is more apt to become injured by foreign bodies in the feces itself. Outside of this fact we know very litt e more about the etiology of carcinoma recti than we do of the etiology of cancer in other portions of the body. The traumatic theory can hardly be accepted, still a certain indirect connection between trauma and the development of cancer seems in many cases to be present. A hereditary factor according to Christen is present in from 4 to 12 per cent of the cases.

Treatment of Polypi, Ulcers and Cancers of the Rectum.

Geo. A. Hogan, B. S., M. D.

Birmingham, Ala.

Prof. Minor Surgery Birmingham Medical College.

A spontaneous cure of polyps sometimes results from detachment by the fecal mass or strangulation by the sphincter-muscle causing them to slough off.

Little can be accomplished by palliative measures in the treatment of benign tumors of the rectum other than adding to the patient's comfort by returning the protruded tumor into the rectum, keeping the parts clean, regulating the stools, and prescribing some soothing or stimulating ointment when the tumor is ulcerated.

The safest and by far the most satisfactory method of treatment in these cases is removal of the tumors at the earliest opportunity. Pedunculated growths should be grasped with forceps, pulled well down, clamped at the base, cut off, and cauterized with the Paquelin cautery. The next best method is to ligate the pedicle at its attachment and cut away the part of the tumor external to the ligature. When the tumors are located in the upper rectum or sigmoid, these operations are not practicable, and it is necessary to remove them by the snare or torsion. Gant's rectocolonic forceps by the aid of which polyps can be quickly and safely removed by torsion from any part of the rectum and lower sigmoid through a long colonscope; if there is considerable bleeding and it is necessary to pack the rectum, the forceps can also be used for this purpose.

In some cases where the tumors are fairly low and have a thick attachment, they may be transfixed with a needle carrying a double ligature, which is tied on either side. Angiomatous tumors having a broad base can be satisfactorily destroyed by ligating them in sections, or they may be excised and their base cauterized. In cases of polyadenoma (polyposis) where the tumors are small and numerous they should be carefully burned away with the Paquelin cautery-point. On the other hand, when they are of such size and numbers as to produce obstruction, it may be necessary to perform colostomy, making the opening above the site of the growths. This operation keeps the bowel below the opening perfectly clean, and the tumors may be removed from above and below at opportune times.

Tumors of the rectum or upon the surface of the body in the anogluteal region should be excised in suitable cases. The wound may be immediately closed or left to heal by granulation.

The line of treatment in rectal ulceration depends upon the patient's general health and the cause, number, size, and character of the ulcers. When the patient is debilitated, nourishing diet and tonics should be prescribed. When tubercular or syphilitic diathesis exists, antitubercular or constitutional treatment is indicated; in ulceration due to dysentery, ipecacuanha—administered in large doses—gives the best results.

The local treatment of rectal ulceration is, palliative and surgical. The most important features in palliative treatment are to secure daily semi-solid stools, protect the ulcers as far as possible from the irritation of the feces, keep the patient in bed, regulate the diet, and make applications or injections of soothing, stimulating, escharotic, or cauterizing remedies.

When there is a tendency to constipation and fecal impaction, salts, cascara sagrada, compound licorice-powder in small doses, carabana, hunyadi, or other reputable mineral water should be given in sufficient doses to secure regular, semi-solid stools. In most cases, however, the patient complains of frequent stools, and in order to overcome the diarrhea and tenesmus it is necessary to prescribe such remedies as tannic acid, gallic acid, and preparations containing starch, bismuth, magnesia, and chalk. When pain is distressing, opiates may be given, but

with caution, because of the danger of the patient forming the drug habit.

Rest in the recumbent position not only overcomes the irritation induced by exercise, but prevents congestion of the rectum which occurs in the upright position and removes the weight of the pelvic organs from the affected parts. In rectal ulceration rest is as essential as is elevation and support in the treatment of varicose conditions of the lower extremities.

The diet in these cases should be simple, nourishing, non-irritating, and, as far as practicable liquid and semi-solid. Some patients do well on an exclusive milk diet. Highly-seasoned foods, pastries, fried meats and vegetables cooked in grease, alcoholic stimulants, and ice-cold and carbonated beverages should be prohibited.

Local applications to the ulcers should always be preceded by emptying the rectum and thoroughly cleansing the sores, by irrigation of the bowel with sterile water, soap-suds, or weak antiseptic solutions of carbolic or boric acid, mercury bichloride, or potassium permanganate. The topic applications which, from their stimulating or astringent effects, have given the best results in healing ulcers are silver nitrate, ichthyol, balsam of peru, alum, silver lactate or citrate, and zinc sulphate. In many cases dusting powders of lead, zinc, alum, calomel, bismuth, subnitrate, salicylate, or subiodide; iodoform, orthoform, or zinc sterate, either alone or in combination, will be found useful; they may be applied by means of the insufflator or on cotton upon the end of an applicator. The greatest objection to powders is that they often cake and produce more or less irritation.

Some patients suffer less and seem to progress more rapidly when the above remedies are used in form of an ointment. In this form they may be applied directly or with Allingham's ointment applicator, when the ulcers are low down; or by means of the Gant ointment syringe, which is suitable for applications in the lower or upper rectum or sigmoid colon. When the ulcers are very sensitive and cause much pain, suffering may be relieved by eucaine, cocaine or belladonna and opiates, either in ointment or suppositories; the ointment form is best because the suppositories are usually either so soft that their introduction is difficult or so firm they press upon the ulcer and irritate the sphincter.

Cauterization with potential silver, copper sulphate, or the actual

cautery should be resorted to when the ulcer has become chronic or refuses to heal under stimulating treatment. Before the application of the cautery the ulcer should be eucainized or cocainized.

When the ulceration is obstinate and located in the upper rectum or colon where direct application cannot be made, it is necessary to give injections through a long, soft rubber colon tube. The most reliable remedies for these high injections are silver nitrate, 20 to 40 grains, or a combination of fluid extract of krameria, 2 ounces; biborate of soda, 1 drachm; and distilled water, 1 pint. Another soothing and effective combination which has proven very satisfactory is iodoform, 1 drachm; bismuth subnitrate, 1-2 ounce; and olive-oil, 1 pint; 4 ounces of this emulsion should be injected just before retiring, and retained as long as possible.

The surgical treatmnet of rectal ulceration requires to be changed to suit the case, and should not be resorted to except where palliative measures have failed. In most instances curettage, followed by stimulating applications, will suffice; but, in other cases, especially where the ulcers are located within the grasp of the sphincter and cause great pain, the sphincter should be thoroughly divulsed before curetting, and in some cases it is necessary to incise the muscle. In very rare instances an ulcer may be excised by an elliptic incision and the wound closed with catgut; but primary union is very difficult to obtain, because of infection and the irritation incident to defecation.

In cases of long standing, in which the ulceration is extensive, has resisted all other treatment, and the patient is rapidly becoming exhausted from pain and frequent stools, a temporary left inguinal colostomy should be made as soon as possible. The teaching of surgeons who maintain that the rectum becomes atrophied shortly after the establishment of an artificial anus and cannot perform its function have been proven to be erroneous. By the establishment of an artificial anus, removes the irritation of the feces and allows the ulcers to be kept clean and treated by direct applications and irrigation from above and below.

Malignant neoplasms of the ano-rectal region require radical treatment. The growth, whether carcinoma or sarcoma, should be completely extirpated, if possible at the earliest opportunity. Radical procedures are

contraindicated, however, when adjacent organs and structures are extensively involved, when the patient's vitality is low, or when it is apparent that no additional comfort will be derived from the operation. While palliative measures accomplish but little toward a permanent cure, their application in inoperable cases prolongs life, materially diminishes the suffering of the patient, and in some instances retards or arrests the progress of the disease. The methods of treating malignant disease in the ano-rectal region may be discussed under three headings: Palliative, surgical palliative and radical.

The palliative treatment of malignancy in this locality consists in:

1. Improving the general condition of the patient.
2. Regulating the diet.
3. Relieving the pain.
4. Relieving the symptoms of occlusion.
5. Cleanliness and treatment of ulceration.
6. Treatment of complications.
7. Treatment by electricity. Some authorities on electrotherapeutics speak highly of electricity applied in various ways in the treatment of malignant neoplasms. There is little reason to believe, however, that any permanent good results are to be expected from this agent. Some claim that the progress of the growth was apparently hastened by electric treatment.

8. The Roentgen rays have been used with a fair degree of success by Dr. Francis H. Williams in treating superficial cancerous growths. He believes that x-rays will prove useful in internal cancer; but this has not as yet been determined. He exposes the affected part to the rays for five minutes each day. It is thought that the good effects derived from this treatment are due to the inflammation excited by the electro-lytic discharge generated in the integument by the high potential current. The only form of malignant neoplasm of the ano-rectal region in which it might, in the opinion of some authorities, be justifiable to employ the Roentgen rays is the squamous-celled epithelioma involving the skin at the anal margin. Owing to the extensive burns which have at times been caused by use of the x-rays in other parts of the body, has kept a goodly number from using this ray in treating rectal cancer.

9. Treatment by internal medication and the subcutaneous and parenchymatous of sera. According to the successful results reported from the injection of the mixed toxins of the streptococcus erysipelatis and the bacillus prodigiosus into sarcoma in other parts of the body, as advised by Coley, it would seem that, under favorable conditions, sarcomata in the rectum might yield to this form of treatment.

Trypsin in Cancer.—Alcindor reports two cases of cancer treated with trypsin by Beard's method. He concludes that lowered vitality from any cause is the predisposing factor in malignant disease and chronic irritation the determining factor; and further, that trypsin is of considerable value. He claims also that gout, rheumatoid arthritis, and chronic rheumatism ought to be treated by injections of trypsin when other better-known methods have failed. Amylopsin, whether used alone or with trypsin he has found of no value.

Graves discusses the history of this treatment and reports the results of his own investigations, begun in September, 1906. In every one of his six cases there was gradual inevitable progress of the disease; four patients are dead and two, though still living, will undoubtedly die very shortly. On the other hand, he states that a few injections of trypsin into one of the circumscribed nodules that occur in recurrent breast cancer will cause the nodule either to disappear, or to shrink greatly, and that articular nodule will not grow again. A section of such a shrunken nodule after several treatments shows under the microscope the remains of destroyed cancer cells, while the somatic cells of the connective tissue remain intact and healthy. It can not be claimed that any great advance has been made in the actual cure of cancer by trypsin, but the scientifically established fact that trypsin has a specific destructive action on the cancer cell and on the deadly ferment that it secretes gives at least a gleam of hope that an effective method of applying the remedy may yet be discovered. The last word concerning the trypsin treatment and the germ cell theory of cancer has not yet been said, and he believes that embryologic and cytologic inquiry points the road for future investigation.

10. Treatment by chemic caustics and the thermocautery are contraindicated in the treatment of malignant neoplasms in the ano-rectal region, except when the growth is located at the anal margin or is soft

and protrudes through the anus. It is also contra-indicated if complete extirpation can be made of the growth.

The surgical palliative procedures for the relief of malignant disease in the ano-rectal region are, in the order of their importance: Colostomy, proctotomy, curettage and forcible divulsion.

The radical treatment of malignant disease has for its object the extirpation of every vestige of the growth and involved structures. This may necessitate the removal of but a small part of the bowel or the excision of the entire rectum, the operation being known as proctectomy.

Proctectomy may be divided according to the amount of structural involvement into: Inferior proctectomy, superior proctectomy, vaginal proctectomy, laparo proctectomy, and proctectomy by invagination.

The history of the operation of proctectomy, or of resection and amputation of the rectum, is somewhat obscure. It appears from the records, that the operation was performed by Faget in 1739 for the relief of a dissecting abscess surrounding the lower part of the rectum. In 1824 Morgagni attempted excision of the rectum, but did not complete the operation. In 1826, Lisfranc, a French surgeon, successfully excised the rectum for the relief of a malignant growth, and the operation was popularized through the contributions to the literature on the subject made by Lisfranc and his student, Penault, between the years 1829 and 1834. There are several modifications and improvements too numerous to go into here.

Sixteen per cent of rectal-cancer patients permanently recover after radical operation. This unquestionably demonstrates the advisability of rectal resection and amputation for the relief of rectal malignancy in suitable cases.

The following are the most common causes of death from rectal resection and amputation: Shock, septic peritonitis, suppression of urine, exhaustion, extensive suppuration, hemorrhage, empyema; gangrene of the peritoneum, gut, or osteo-integumentary flap; atheromatous disease, pyelonephritis, and iodoform poisoning.

The permanent results following extirpation of malignant growths of the rectum depend largely upon the care observed in selecting cases and also upon the thoroughness of the operation. When the neoplasm involves neighboring or distant organs and every vestige of the growth

is not removed, no lasting benefits are derived from the operation. On the other hand, if the disease is confined to the rectum and its extirpation is complete, the life of the patient is lengthened, and not infrequently a cure is effected by the operation. Unfortunately, it is impossible in many cases to determine, before operation, the extent of the growth and whether its complete removal can be accomplished.

In unfavorable cases recurrence may take place at the site of the original growth, or metastases may form in distant organs such as the liver, lungs, etc. This may occur in a few weeks or months after the operation or not until after some years have elapsed. It is customary, however, to classify as cured all patients who survive the operation for three or more years without signs of a return of the disease.

Ligature Operation for Hemorrhoids.

By E. M. Robinson, M. D.

Birmingham, Ala.

Gynecologist to St. Vincent's and Hillman Hospitals.

There is no condition which is more satisfactorily met by surgical intervention than hemorrhoids. There is nearly as many modes of operating as operators. The removal by clamp and cautery or by the ligature is perhaps only a matter of individual preference, either one of which if done thoroughly by a competent operator will give perfect and permanent relief; the object in either case being to remove as much of the pile bearing mucous membrane as possible without narrowing the calibre of the bowel outlet. The ligature operation that I have been doing for a number of years with much satisfaction to myself, at least, is performed in the following manner:

The patient is prepared the night previous to the operation by giving a full dose of castor oil or sulphate of magnesia and by scrubbing, shaving and the application of a bichloride dressing to the field of operation. A cleansing enema should be given early in the morning a few hours previous to the operation. No breakfast having been allowed, the patient is given a general anesthetic, placed in the extreme lithotomy position, the legs held by supporters or by an assistant. The sphincters are now thoroughly dilated. By introducing the thumb

of both hands and slowly, but forcibly separating them, this can be done if care is taken not to exert too much haste, without producing any laceration.

The hemorrhoidal tumors to be removed now present as shown in Fig. 1. With a small sharp knife I cut to a depth of 1-16 inch at the line where the skin and mucous membrane join. Fig. 2. This incision is carried entirely around the anal orifice outside of the pile tumors. From this incision we have a little bleeding, not exceeding a drachm in most cases, and this is the only blood lost in the operation.

A section of the tumor is now grasped between two sets of two pairs

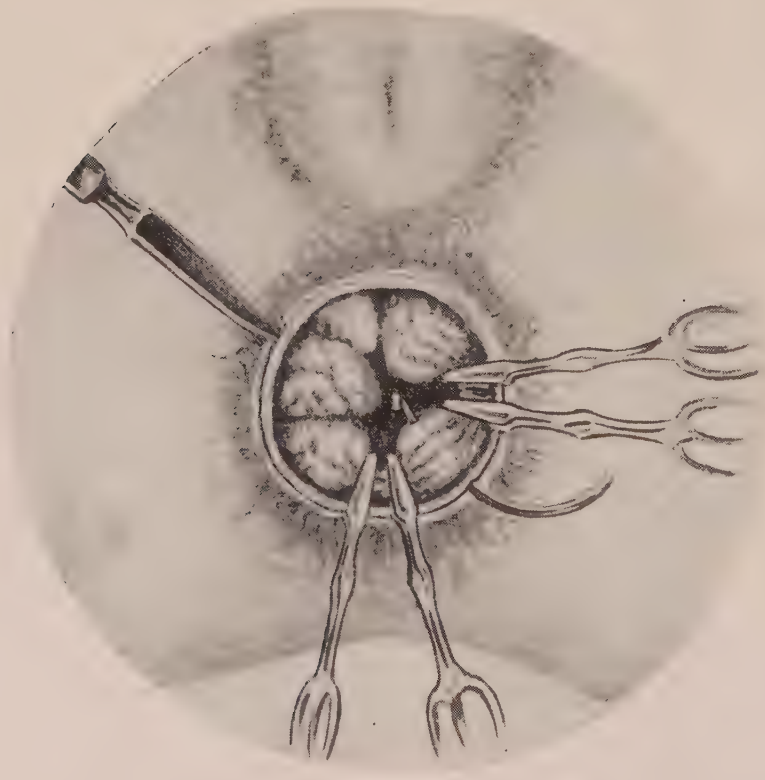

FIG 1.—Shows the piles after dilatation of spincter, the incision at juncture of skin and mucous membrane, the forceps placed, and needle containing thread passed through base. The cut only shows between the set on right side, it should extend to the very tip of the forceps.

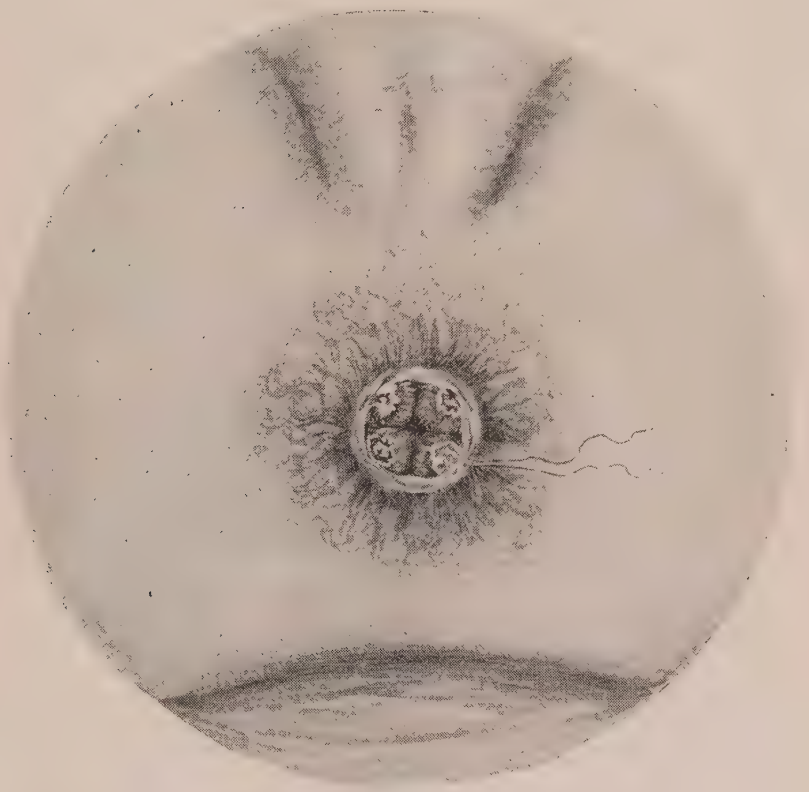

FIG 2.—Shows the operation completed except the reduction of stump to the bowels The ligature of one section has been left long.

each of artery forceps. Fig. 1. The sets should include only as much of the tumor between them as can be securely tied with a double transfixed ligature.

A medium sized half curved needle carrying a strong silk or linen ligature 12 inches long—both ends of the ligature being the same length—is introduced into the circular incision, carried through the base and brought out at the most internal part of the hemorrhoid. Great care should be taken not to include any of the sphincter fibers in this ligature; the experienced touch will readily recognize the sphincter muscle when touched by the point of needle.

If the pairs of forceps are now cut between (see Fig. 1 right side)

well down to the point, the needle cut from the ligature, the double ligature crossed and tied on either side, including the adjacent forceps of each set and that part of the tumor included between them, we have a section tied off which is cut as near the ligature as is safe. This is repeated until the whole tumor has been ligated in sections. See Fig. 2. Fig. 3 shows the stump or stumps being inserted into the bowel after the operation is completed.

I have never had any complications, such as incontinence, stricture, ulcer or return of the trouble follow an operation performed in this way.

FIG 3.—Shows the operation complete and the stump being reduced with thumbs of operator.

Etiology, Pathology and Treatment of Diseased Tonsils and Adenoids.*

By B. D. Sibley, M. D.

Birmingham, Ala.

This subject is so perfectly familiar to us all, and has been so thoroughly thrashed out that it is with timidity I presume to try to interest the society.

The systematic routine examination of school children in the large cities which is done by the supervision of a specially appointed health officer, is certainly a great benefit to the children in these communities. Often children suffer, and are retarded, mentally as well as physically through either ignorance, or indifference on the part of patients, or the lack of appreciation of the necessary care on the part of the family physician.

AS TO ETIOLOGY; AGE IS A PRINCIPAL FACTOR.

Diseased tonsils and adenoids usually develop in early childhood, especially hypertrophy, for at this stage the lymphatic tissue is very susceptible to vascular change. The repeated colds at this age keep the lymphoid tissue of the pharynx congested, and overfed, which produces excessive growth of the adenoids and tonsils. It is as essential that the air be prepared by the nose before it enters the lungs, as it is for the food to be prepared by the mouth before it enters the stomach.

The principal function of the nose is to supply heat and moisture. It has been estimated that the nasal cavities supply two quarts of liquid to the inspired air during twenty-fours hours. Hence, any obstruction to the free passage of air through the nose such as due to adenoids, will force the child to breathe through the mouth, a cavity which is not intended to prepare the air, which is laden with dust, and keeps the mouth, tonsils and pharynx dry, and lessens their resistance to bacteria. The entire mouth and teeth are affected, which is a serious question in childhood. Adenoids also interfere with aeration of the middle ear, and retards nasal secretion which does mischief in the eustachian tube.

By diseased tonsil is not meant only the hypertrophied, or large

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tonsil, which fills the faucial space, in which case the only disturbance that we frequently find is the loss of resonance to the voice with an occasional follicular tonsillitis; but also includes the submerged or degenerate tonsil, which is equally as offensive and dangerous, if not more so. The only difference being merely in the fact that the enlarged tonsil stands out from between the pillars with its crypts usually open and free to throw off its detritus; while the degenerate tonsil has simply receded into its socket with its crypts more or less closed preventing the escape of its contents; thus harboring bacteria to do their mischief.

This is why we so often see patients who have enormously large tonsils with little or no systemic disturbance, while a receding tonsil often produces marked general symptoms at times so severe as to mask the local condition. It is an established fact that normal, healthy mucous membrane stands as a barrier against the invasion of bacteria, but diseased epethelium does not do so. The epethelium which covers the surface of the tonsil is usually hard, tough and resistant but that which is found within the crypts, often dilated and filled with decomposed food, exfoliated epithelial cells and bacteria; becomes damaged and is less resistant.

The crypts may become closed; if no bacteria are present there is not likely to be any systemic disturbance; but if bacteria are enclosed then an abscess forms and there may be marked constitutional symptoms. The bacteria may enter the lymph channels and produce abscess elsewhere, either in the lymph glands, or pass on to a more vital organ. Even if the bacteria are not absorbed the absorption of toxins may produce grave symptoms.

Jason, of Hamburg, has reported several cases in which general infection seems undoubtedly to have followed a tonsillar infection:

One a comatose girl—both tonsils apparently free from infection—had cutaneous hemorrhages, nephritis and death. Autopsy showed surface of tonsil smooth, but the interior had multiple abscesses. Abscesses were also found in other organs, had endocarditis.

Another case, a girl with angina—deposits on tonsils disappeared after two days, after eight days she had pleurisy, pericarditis and pneumonia. In the tonsillar deposits were found streptococci. Streptococci

were also found in the pneumonic sputum; there were no pneumococci, nor influenza baccilli found in the suptum.

Another case, a girl with severe angina; tonsillar deposits contained staphylocci; had pleurisy, pericarditis, pneumonia, death. Autopsy; tonsil smooth, general pyaemia; the same micro-organism was found everywhere.

Goodel observed twenty-one cases of tonsillitis followed by rheumatic arthritis. He regards tonsillitis as a local disease which is often the starting point for the infection of the system, which excites rheumatic arthritis; but thinks that a predisposition for acute articular rheumatism must exist if this disease is developed.

Boup placed colonies of tubercle baccilli on the tonsils of rabbits, which caused profound lesion of the tonsillar tissue, but has never found the baccilli. The peritonsillar and cervicle glands were caseous.

Goodale reports an interesting case: A boy five years of age, for several months had nodes the size of a hickory nut on the left side of the neck, which would diminish and recur, always on the same side of the neck. Examination of the throat showed tonsils apparently normal in color, not large, nor adherent to the pillars; crypts showed no evidence of retention of contents. A small adenoid was found. Under general anaesthesia, adenoid and tonsils were removed and examined microscopically. The adenoid showed no evidence of tuberculosis, while in the left tonsil was found giant cells. Inocculation into guinea pigs was made. The adenoid pigs proved negative, while the tonsil pigs developed tuberculosis of the spleen and other organs.

As a means of infection, he reports a series of fifteen cases occurring in a dairy, in all the deposits of the tonsils, and on the udder of a cow the same micro-organism was found. The treatment of diseased tonsils consists in their complete removal.

As in other parts of the body where operative procedures are resorted to, a thorough knowledge of the anatomy is necessary.

In the embryo, the mouth, nose and rhino pharynx are all one cavity, which becomes separated by the invagination of the maxilary process. The eustachian tube and tonsillar fossa are situated in the same branchial cleft, between the second and third arches. This cleft is divided into an upper and lower section by the formation of the palate.

The upper section contains the eustachian tube and fossa of Rosenmuller; the lower section forms the tonsillar fossa. The two sections are separated by only a thin layer of connective tissue, a submerged tonsil which extends up and back into the tonsillar fossa, lies in close contact with the eustachian tube, and any swelling of the tissues will disturb the tube, give ear ache and interfere with the function of the ear. Refer to Chart.

The tonsil buds out from the mucous membrane at the base of the tongue, situated between the pillars of the fauces, and develops to varying sizes. In foetal life there is a band of tissue which extends from the anterior pillar backward to the posterior pillar enclosing the tonsil. This band known as the plicca triangular usually disappears, but sometimes remains to a varying degree and interferes with the operation for the removal of the tonsil.

Above the tonsil, between the two pillars, is a pyramidal space known as the supratonsillar fossa. Its size varies according to the size of the tonsil as well as the amount of fat in this region. I have a very thin patient whose tonsils have been removed completely, and yet a good sized plug of food and other matter will accumulate in the apex of this space, which she removes with her finger nail. She refuses operation to obliterate the space.

AS TO ANAESTHESIA.

In adults the fauces should be sprayed with 2 per cent cocaine solution. After a few minutes each crypt as well as the surface of the tonsil is treated with the following:

Cocaine ....1 part
Carbolic ....1 part
Menthol ....2 parts

In children local anaesthesia is inefficient. Nitrous oxide gas is unsatisfactory, owing to the fact that the patient recovers too rapidly to permit a thorough operation. There are several methods of removing tonsils. Some use scissors, others use tonsillatomes, the bistury or the snare, and some the cautery.

The following method has served me best. Having the child anaesthetized, it is placed on its back with head extending over the end of the table, the shoulders reaching the edge of the table. This allows the head to be lowered or rotated at will. The Whitehead mouth gag is

used, as it retains itself in position, and holds the mouth wide open; the tongue is depressed by an assistant. This leaves the fauces clearly open to view. Catch the tonsil with a pair of tonsil forceps; the pillars are then thoroughly dissected or separated from the tonsil by means of a curved blount end tonsil knife, which is curved on its flat side. If there is a plica triangularis present it should be removed with scissors; if the tonsil extends high up in the fossa this should be dissected from its capsule with the knife, which is curved on its flat surface, or with scissors. I prefer the flat knife. Take time and care to mop the blood from the field of operation, and see that the tonsil is entirely freed from its adhesions before separating it from its base. Pass the tonsil forceps through the loop of the snare, catch the tonsil with the forceps and draw it into the loop. Take time to see that it is adjusted snugly about the base of the tonsil and tighten the wire until the tonsil is amputated. This method removes the tonsil completely. The method of hurriedly chopping off a piece of the tonsil with the tonsillatome is to be condemned, for while you may succeed in removing the obstruction from the fauces, there may be, as a result, a receding degenerate tonsil with its diseased crypts to invite further infection.

I know of only three alarming hemorrhages following the removal of tonsils, one of which was in my own practice; in each case the Matthews tonsillatome was used. The arrest of hemorrhage was accomplished by use of the tonsil haemostadt. Should the haemostadt fail to arrest the hemorrhage it is advised to stitch the pillars together, with or without a plug in the wound.

The after-treatment consists principally in keeping the wound clean with some mild alkaline antiseptic, such as Dobel's solution, and treating the wound according to indications. Sometimes when the child has lost a considerable amount of blood it is left anaemic and tonics are to be given. If the adenoids alone have to be removed gas may be used, but if at the same time, the tonsils are also to be removed, general anaesthesia is more satisfactory.

In removing adenoids I first use an adenatome, and then follow with a curette, and then my finger to examine the vault of the pharynx, paying particular attention to the region above and back of the eustachian tube.

After a tonsillectomy the rhino pharynx is filled with blood, and at times it is hard to tell if the adenoid has been removed entirely. If the result is not as good as expected, a second operation should be done to complete the work.

In conclusion, when we have a systemic disturbance without apparent cause we should inspect the tonsils as a possible source of the trouble. Even if the surface of the tonsil is smooth, a small curette inserted into the crypts may show evidence of the source of the disturbance. In the removal of the tonsils there should be as much care taken as in any other operation on the body, for we operate with a definite object in view, and should exhibit as much care as the general surgeon would elsewhere.

Do not operate with the sole idea of removing obstruction without considering the fact that tissue may be left to degenerate and cause further trouble.

If a plica triangularis is present, be sure to remove it, for if left, a pocket will remain for accumulation of foreign matter.

Discussion of Symposium on Lobar Pneumonia.*

By J. M. Lowrey, M. D.
Birmingham, Ala.

Mr. President:—

I have been waiting hoping that some one would mention the Galbraith "quinine-iron" treatment of this disease. Galbraith claims no originality so far as the use of quinine in pneumonia is concerned, but his *method,* I believe, is his own. He starts his treatment with what, ordinarily, would be considered an enormous dose of quinine. This will, of course, vary with the age of the patient, sex, physical condition, etc. For a robust adult sixty to seventy grains of the sulphate of quinine is the routine. After this large initial dose he gives ten or fifteen grains every four hours, and two hours after each dose of quinine the patient receives fifteen minims of tincture of ferric chloride in a wineglass of water. This is continued until the symptoms abate, and

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the disease is under perfect control. The rapidity with which this is accomplished is often startling. Cases seen in the first twenty-four or forty-eight hours of the attack are often practically aborted. The temperature falls to nearly or quite normal, as do the pulse and respiration, the cough is lessened both in frequency and severity, the pain disappears, and the patient feels almost entirely comfortable. Occasionally after twenty-four or thirty-six hours, the symptoms may again become alarming, and here is where one needs the courage of one's convictions. To abandon the treatment would probably mean a fatal termination. The indications are for another *large* dose of quinine, to be again reduced to ten or fifteen grains every four hours, as in the beginning of the treatment.

In the administration of such large doses of quinine we would ordinarily expect a marked depression of the heart, but fortunately, here, this is not the rule. On the contrary the heart is merely strengthened, i. e., the pulse rate is lowered and the volume is increased, while in quality it softens and becomes compressible. Contrary to expectations, too, we do not find the disturbances of the special senses that we would be led to expect. There is only very rarely any disturbance of vision, and tinnitus, while more common, is still rare. Profuse diaphoresis, however, is the rule.

I read Galbraith's first report of cases some two years ago in the Journal of the American Medical Association, and was so impressed with his sincerity, and his mortality (or rather the lack of it) that I determined that the next pneumonia patient I had would receive his treatment, whether I, or some one else, happened to be the patient.

My first case was I. H. C., white; age 22; driver of an oil wagon. Was called to see him about 6 p. m. Nov. 20, 1906. He had just gotten home from his daily rounds, and was barely able, with assistance, to remove his clothing and get into bed.

I found on examination a well-nourished, robust young man, about five feet six inches in height, weighed probably 145 pounds. He reported that he had had a hard chill about 1 p. m., and had begun to feel very hot and feverish soon after, and to suffer from severe headache. He also stated that as the afternoon wore on he had grown very weak, had difficulty in getting his breath, and just before I arrived, had vomited. There was a dry, hard cough, and he complained of severe pain in his left side, especially on full inspiration.

He was lying on his left side with legs flexed on thighs, and thighs on abdomen. Prostration was well marked. The face had a dusky tint. The respirations were 38 to the minute, rather shallow, and each expiration accompanied by a grunt. Pulse, rather full and hard, and 120 to the minute. Oral temperature was 103.5 F. His facial expression was one of pain and anxiety.

Palpation: Vocal fremitus slightly increased. Apex beat in normal position.

Percussion: Slight dullness over lower left lobe.

Auscultation: Respiratory murmur bronchial in character. Slight pleuritic friction-sounds.

The diagnosis of lobar pneumonia of the left lower lobe was too clear to be mistaken.

I placed him on liquid diet, and ordered quinine sulphate grains sixty, in capsules, to be given at once, and followed by fifteen grains every four hours, while awake, alternating with the tincture of the chloride of iron, fifteen drops in a wineglass of water every four hours, with instructions to 'phone me during the night if occasion demanded.

When I saw him the following morning, Nov. 21st, about 9:30 a. m., the first thing that struck me was the change of facial expression. He greeted me with a smile, and in reply to my inquiry stated that he felt very much better, and would like to sit up and eat breakfast (he had refused food the previous evening). His pulse I found to be soft and full and 72 beats. Temperature was 98 F. Respiration 22. There was absolutely no pain in the side. The cough had almost disappeared, and was no longer painful.

There were a few moist rales, and still very slight dullness over left lower lobe. He complained of no disturbance of special senses, but stated that he had perspired so freely during the night that the bedclothes had to be changed.

He was, of course, kept confined to bed, and treatment continued—quinine, fifteen grains every four hours, alternating with the tincture of ferric chloride as before.

Nov 22nd, 9 a. m. Patient feeling splendid, and insisted on getting up. Temperature, pulse and respiration normal. Appetite good; felt much stronger, and was allowed to sit up. Dullness had entirely

disappeared, and only one or two moist rales could be heard. Slight tinnitus. Quinine was stopped and iron continued.

Patient 'phoned me next morning (Nov. 23rd) he was going to work.

I saw him about two months after, and he reported he had felt "as good as new" in two or three days, and had had no further trouble.

My next case was a negro miner, about twenty-five or twenty-six years old, well nourished and muscular. He had been ill three days. I found him in a little cabin out in an open field where the bitter wind which was blowing had a clear sweep. The cracks and crevices in the little shack were so numerous and so large that the covering would occasionally be almost lifted from the patient. There was no lack of fresh air. He had a well developed lobar pneumonia, involving the right lower and middle lobes. Temperature 104 F., respiration 40 to the minute; pulse 130. Very severe cough accompanied with distressing pain. Ordered quinine sulphate forty grains, and then fifteen grains every four hours, alternating with tincture of ferric chloride.

The following day, Feb. 23rd, temperature 102; pulse 100; respiration 28. Pain in side and cough much improved. Treatment continued. Rusty sputum noted.

Feb. 24th. Temperature 100 F.; respiration 22; pulse 94. All symptoms still improving.

Feb. 25th. Condition practically same as on yesterday.

Feb. 26th. Temperature, pulse and respiration normal. Quinine stopped; iron continued. Patient made uninterrupted recovery, and returned to work at the end of one week.

My third case was a negro woman in the same mining settlement, who had been ill for about ten days. She was placed on the same treatment, and was markedly improved on the second day, but unfortunately her menses made their appearance, and the quinine was discontinued. On the same day the menses appeared tinnitus was very marked. I suppose this was merely a coincidence. Treatment was purely symptomatic during the remainder of the attack, which continued for about two weeks longer.

The fourth case was also a negro miner, age thirty-six, height 6 feet, weight 180 pounds. Saw him on second day of attack. Temperature was 103 F., pulse 130, respiration 36. Pain on left side over lower lobe. Distressing cough. Rusty sputum. Headache and pain in back.

Examination showed consolidation of left lower lobe.

Gave quinine sulphate grains forty, to be followed by fifteen grains every four hours, and two hours after each dose of quinine he received tincture of the chloride of iron fifteen drops in a wineglass of water.

The following morning, Jan. 5th, temp. was 102, resp. 30, pulse 110.

Jan. 6th. Temp. 100, resp. 24; pulse 98. Pain all gone. Cough much less painful, and fewer paroxysms. No disturbance of special senses. Perspiring profusely.

Jan. 6th. Temp., pulse and resp. normal. Found patient sitting up in bed. Quinine stopped. Iron continued.

Jan 7th. Temp., pulse and resp. normal. Patient feeling splendid. Still pretty weak. Iron continued. Patient made a rapid recovery, and was about to return to the mines when he was stricken with measles on the eighth day after his temperature had reached normal.

Of course, these few cases are not sufficient on which to base an opinion as to the merits of this treatment, but they go to swell the volume of evidence already published. Galbraith's mortality in a large series of cases was practically nil in a locality, and during an epidemic which had previously, under symptomatic treatment, given a mortality varying from 35 to 50 per cent. Several members of the U. S. Public Health & Marine-Hospital Service a little later treated a series of cases by the Galbraith method, with the exception that the doses of quinine administered were not quite so large—usually 35 or 40 grains as the initial dose—and while their results were far above those usual under symptomatic treatment, they were not quite so good as those obtained by Galbraith. One of these writers expressed himself as having the greatest faith in the treatment, and stated that he felt confident that their results would have been equally as good as those of Galbraith had they given the same large doses, and shown the same courage at the critical moments. Their mortality, as I remember it, was about five per cent.

There are a few points which I think should be emphasized:

First, The earlier the patient is seen, the more prompt and favorable will be the results.

Second, The need of courage to continue the treatment, and administer a dose of sufficient size, when the secondary rise occurs—if it occurs.

Third, That under this treatment the alarming symptoms so usual in lobar pneumonia, viz., cyanosis, overloading of the right heart, etc., occur less frequently.

Fourth, The patient is more comfortable during his attack, owing to absence of the cough and pain in side.

Fifth, The attack is either aborted, or at least much briefer.

Sixth, The absence of the so-called crisis.

Common Functional Disorders of the Urinary Tract.*

By Harry Levy, M. D.
Birmingham, Ala.

Polyuria.—The normal quantity of urine excreted during the twenty-four hours varies anywhere from twenty-five to one hundred ounces. The normal average being fifty ounces. Polyuria indicates a condition in which the quantity of urine eliminated is above the normal maximum. Patients suffering from this trouble have been known to pass as much as eighteen quarts of urine during twenty-four hours. Diabetes insipidus is the term applied to a disease characterized by polyuria, thirst and abnormal appetite. The direct cause of the enormous output of urine is in all probability due to a disturbance of the vaso-motor nerve of the kidneys which is responsible for the transudation of large quantities of water from the organs. Many believe that trauma is the exciting cause of the disease. Aside from the discomfort of having to urinate frequently, great thirst and voracious appetites, victims of this malady complain of no other symptoms. There is no deterioration of health in many of these patients, and the lives of these individuals are usually not shortened. They usually suffer from neurasthenia or hysteria, the symptoms of which overshadow the polyuria.

Treatment.—Assuming that the cause of polyuria is of nervous origin valerianate of zinc has been highly recommended. Belladonna and ergot have been used with the hope of remedying the vaso-motor condition in the kidneys. Electricity has been used with some benefit. The

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patient should live a hygienic life and no effort should be made to limit the intake of liquid, as this tortures the patient and accomplishes no good whatever.

Frequent micturition of functional origin without any actual increase in the quantity of urine is frequently complained of by those suffering from hysteria, neurasthenia, emotion or prolonged mental strain. I have seen medical students preceding an oral examination urinate during a period of two hours every minute or two. Recently had a patient come to me with the complaint that she had to pass her urine every fifteen minutes during the day and about every hour during the night. Her urine was normal, and finding her to be a very nervous individual administered bromide with complete success.

Retention of urine in hysterical women is by no means an uncommon occurrence. Had a woman under my care about six months ago when I was forced to catheterize twice. The first time after a period of retention lasting thirty hours, about three pints of urine being drawn; the second catheterization followed a period of retention lasting about twenty-four hours. Her urine had been drawn by another physician on several occasions prior to her coming under my care. I finally refused to catheterize her and by giving the usual treatment for hysteria, mostly suggestion, she ceased suffering from retention of urine. Inability to void urine is thought to occur more frequently in hysterical women who masturbate. In the case mentioned the patient is not above suspicion as regards that pernicious practice.

Functional Eneuresis.—In adults this disturbance of function is not frequently met with. In several neurasthenic and hysterical cases it is occasionally encountered. According to Trouseau eneuresis in an adult should arouse strong suspicion of epilepsy, it frequently happening that this is the only symptom to call our attention to this disease. In children eneuresis is unfortunately a common complaint. If proper trained a child should possess complete control of his bladder at the end of the second year. Where the child suffers from eneuresis this may not happen till puberty is reached. Occasionally a child will gain control of his bladder at the proper age, then at four or five begin to suffer from incontinence. The child may suffer from a diurnal or nocturnal eneuresis or both. Parents of incontinent children complain most bitterly of the annoyances and inconveniences to which they are subjected.

Etiology.—Heredity plays an important role in this disturbance. Parents of incontinent children frequently give a history of incontinence during childhood. The condition is a neurosis characterized by an extremely sensitive bladder. Slight reflex irritations, such as phymosis, adherent prepuce, or pin worms, may have been the exciting cause of the trouble. Frequently these children suffer from a slightly inflamed and sensitive prostatic urethra. Normally this part of the urethra serves as part of the urinal reservoir when the bladder becomes distended with urine, and the individual then only feels a slight desire to urinate, but when the prostatic urethra is abnormally sensitive, as soon as the bladder fills and the urine reaches this portion of the urethra, an uncontrollable desire to empty the bladder seizes the patient and he voids the urine before he is able to exercise any inhibitory power. The fact that the spinal inhibitory centers controlling the bladder are not fully developed till puberty renders the child an easy victim of incontinence. A diagnosis of functional incontinence should not be made immediately after ascertaining that the child wets his bed during the night or his clothing during the day. Vesical calculus, cystitis, gonorrhoea in female children, nephritis, renal tuberculosis and polyuria should be carefully considered and excluded. Diabetes melitus should also be thought of. If the quantity of the urine is normal, not highly acid, free from albumin and sugar, and the act of urination painless, then functional incontinence can be diagnosed. If no treatment be instituted the eneuresis will cease before or at puberty. Only in very rare instances does it continue after puberty.

The treatment of eneuresis in children is not always a howling success. It is much easier to outline a feasible and scientific course of treatment than accomplish a successful cure. The tendency to relapse in apparently cured cases is rather discouraging. But if one does relieve a little patient from this distressing habit, he will earn the gratitude of patients and child as much as if he had saved life itself. The first step in the treatment should be to remove all possible reflex causes, such as phymosis, irritation of rectum, highly acid urine, and other irritations about the genitals. The child should be forced to live a quiet hygienic life, the diet nutritious and plain. He should be kept in the open air as much as possible, and not worried much with studies of any kind. Corporal punishment is not only useless, but positively

harmful. The trouble is essentially a habit, and judicious means will often break it. Rewards for passing a night without wetting the bed often do good. Of drugs belladonna is the most important in this malady. It should be administered in full doses, as much as four minims of the tincture to a child four years old. The drug is best given in the afternoon and evening before retiring. No fluid should be given the child after four p. m., and he should be made to empty the bladder before being put to bed, and awakened for the same purpose sometime during the night. Hyoscyamus has also been used successfully in the treatment of incontinence.

Functional Albuminuria.—The occurrence of serum albumin in the urine of healthy individuals whose kidneys are absolutely normal has been denied by many eminent authorities. However, the majority of writers on the subject agree that traces of serum albumin may be found in the urine of healthy individuals. The albumin is probably due to a transitory passive congestion of the kidneys. Posture, cold baths, and strenuous physical exertion will occasionally cause a transitory albuminuria.

Hereditary Syphilis.*

By O. P. Board, M.D.,
Birmingham, Ala.

Hereditary syphilis is syphilis transmitted from parents to offspring. We have laws that govern this syphilis to a certain extent but they depend entirely upon clinical facts and are not as yet well understood.

Colli's law is that a syphilitic father may beget a syphilitic child without apparently infecting the mother; yet this mother cannot be infected by nursing the child, although this child will very promptly infect a wet nurse; and the mother, remaining healthy many years, almost invariably has some tertiary manifestations. Therefore the mother in some way and in some degree is syphilitic.

The danger of transmission from father to child ceases in from two to five years under proper treatment, but under inefficient treatment the virulence may last indefinitely. The danger of transmission in mothers,

*Read before the Jefferson County Medical Society,

however, does not terminate in any definite period, some women continuing to beget syphilitic children years after discontinuance of their own symptoms. Fortunately this is rare, and as a rule we find the syphilitic mother in the beginning miscarrying very easy, and in each succeeding pregnancy miscarriage occurring a month or so later until finally a healthy child is born. If both father and mother are syphilitic the danger of transmission and severity are greatly increased.

The child may die in utero and be expelled as a fetid, disorganized mass, or it may be born alive only to live for a few days. It may reach maturity bearing scars of its parents' misfortune or may remain well many years and fall victim to a delayed hereditary syphilis.

The child may conceivably be infected in one of five ways:

1. At the moment of conception by mother's ovum.
2. At moment of conception by father's semen.
3. By means of placental circulation.
4. To the child at birth from lesion of mother's genitals.
5. To the child after birth from either parent by a kiss or suckling.

Of course infection from the last two is really acquired syphilis. Smyptoms and pathology of hereditary syphilis may be divided into—

1. Fetal syphilis.
2. Infantile syphilis (first 3 to 6 months).
3. Relapses in infancy (until 5th year).
4. Late hereditary syphilis.
5. Stigmata of hereditary syphilis.

In fetal syphilis we find that skin is usually immune until about birth or shortly afterward and that the manifestations are usually first visceral, and secondly, of the bones. We know that in the acquired syphilis the disease shows a special affinity to the skin and mucous membranes and later the nervous system. It differs from acquired syphilis also in its hyper-acuteness. The viscera most frequently attacked are the lungs, liver, kidney and spleen.

The type of congential syphil's is a diffuse cell proliferation arising from the perivascular connective tissue of the smallest vessels, with a tendency to later contraction and obliteration of these vessels. Hyperplasia of the connection tissue goes hand-in-hand with hypoplasis of the parenchyma. The placenta usually shows similar changes and may

reach one-third the weight of child. The child may be aborted or still-born; it may be born manifestly syphilitic or apparently healthy. Abortion usually occurs between fourth and seventh months and is caused by inanition from overwhelming visceral disease. The typical syphilitic child that is born alive is then feeble, with a wrinkled loose skin upon which may be an eruption. It has the snuffles with a hoarse cry and perhaps a pseudo-paralysis. The child born apparently healthy may show no signs of disease and be of normal weight, and in a short time develop lesions and die, the autopsy revealing extensive visceral involvements.

Infantile syphilis first strikes the mucous membrane of the nose, producing snuffles, and then involves the skin. The skin lesions are not of same character as acquired syphilis and not so constant. The little patient may only show his malady by thinness and restlessness in the beginning. Symptoms appear as a rule in from eight to twelve weeks. Snuffles is most constant symptom but least characteristic, as we may have it in so many other conditions. It begins as a dry congestion of nose, later ulceration and mucous acrid discharge. Development of nasal bones is impaired and bridge of nose is left sunken in characteristic manner. Skin lesions are usually papulo-macular, but on account of sensitiveness if the skin in infant's eruption is severe has bullous or pustular lesions and ulcerations in moist regions. Regions mostly affected are the buttox, about the genitals, flexor surfaces of thigh, and sometimes on palms and soles. The earliest skin lesion, but fortunately the most rare, is pemphigus. It consists of large copper-colored papules set with blebs filled with serum or pus. When this occurs before second week it is an accepted sign that child will die. Onychia occurs in infantile syphilis, the nails look pinched and clawed and sometimes paronychia develops and nails are readily detached. We have few lesions of mucous membrane except of nose, lips and arms. Aphonia is, however, frequent, the familiar hoarse cry of infant is suggestive. We have visceral lesions as in fetal syphilis, but not so constant. Bones and joints are affected, the striking lesions being osteo-chrondritis and periostitis—former begins before birth and the latter shortly after birth. Osteo-chrondritis most commonly affects knee and elbow causing distortion and enlargement.

Periostitis is usually more marked upon the skull. We have infiltration and softening between the tables and in the sutures, diffuse periostitis of the frontal and parietal bones causing enlargement. Skull may be affected secondarily by hydrocephilis.

Relapses.—After first outbreak of hereditary syphilis in first three months the disease may remain in abeyance or may relapse. In these relapses skin lesions are about the same as those described, but are less likely to be so diffused.

Late Hereditary Syphilis.—We are most likely to see this from sixth to eighth years, or at time of puberty, although limit of duration is indefinite. The lesions of late hereditary syphilis vary little from tertiary lesions of acquired form. Certain lesions are more common however in hereditary syphilis, as lesions of eye, internal deafness and diffuse periostitis. The diffuse periostitis is most common in tibia, the shaft of bone is thickened and new bone formation makes it appear bowed forward. This has been termed saber-blade tibia and is absolutely pathognomonic of syphilis.

Hutchinson places great weight upon parenchymatus keratitis as a diagnostic sign, but its value is disputed by other authors.

Stigmata of hereditary syphilis are the scars of syphilitic lesions or the deformities and peculiarities left by syphilitic lesions occurring in infancy or youth. They are more or less pathognomonic of the disease, but only the radiating fissures of the lips and the saber-blade tibia are absolutely so. Most important stigmata is the Hutchinson triad, which is the dental, ocular and aural stigmata. Hutchinson's teeth are the peculiar small, pegged-shaped, notched permanent teeth, usually confined to the two upper incisors.

Fournier describes a less characteristic deformity, but one more common. It consists of an erosion on the summit of the sixth year molar. This erosion wears away leaving a short tooth with a smooth top.

Diagnosis rests along three lies: examination of infant, history of previous birth or miscarriages, and history of father and mother in reference to antecedent syphilis. It is usually easy.

Prognosis is bad. Over sixty per cent die. Dr. Jones Hyde records 1,700 pregnancies of which 1,221 went to term while of this number

916 died during the first year. In private practice, however, one can do much better than this. Prognosis depends on the food and the intelligent administration of mercury. A bottle-fed infant has a very poor chance to live.

Treatment is based upon the same rules as acquired syphilis. Careful attention to the diet is important, mother's milk being as important as mercury. If mother is properly treated with mercury during pregnancy the child as a rule will be born uninfected. It is a question whether these apparently uninfected children should be treated at once or not. Duration of treatment should be two years, as in adult life, and afterwards if symptoms appear. Iodide of potash is useless in first year. Mercury is best given by inunction. Usual method consists in diluting ointment of mercury with three parts vaseline and this spread on the belly band. If this should be irritating or inefficient gray powder may be used in 1-2 gr. doses three times daily increasing to one grain. Later lesions require mixed treatment. Children bear mercury and iodides well. Erosion and candylomas should be kept dry and dressed with calomel and starch. Lips touched with silver-nitrate. Snuffles best treated by anointing with oint. ammoniated mercury.

Illustrating Two Therapeutic Indications for Iodalbin.

By William Lenneker, M. D.

Chicago.

For a long time I have been experimenting with the various new iodine preparations, to be used in place of iodide of potassium, which had failed in a great many cases on account of the patient's not being able to bear it.

Recently there was put into my hands a preparation called iodalbin, described by the manufacturers as iodine in combination with an albuminoid; and after reading the reports on it and the explanation of its properties and the many animal experiments, etc., I came to the conclusion that I would try it in the next case.

IODALBIN IN SYPHILIS.

Case 1. During the month of October, 1907, a Mr. D., of Aurora, Ill., came to me suffering from intense periodic headaches, occurring

about twice a week. The man was a saloon-keeper and it seems that he drank a great deal. After a careful investigation I came to the conclusion that it was a case of secondary syphilis with gummata at the base of the brain. The headaches were so intense that the man was entirely helpless from pain while the attack lasted. He had been under the care of physicians for at least five or six years and had taken any amount of mercury internally and also iodide of potassium with little improvement. He had been to Hot Springs, Ark., and there was put through a course of the hot baths with inunctions of mercury. The patient was in such a condition that he had to be relieved and as he had taken almost everything in large quantities without satisfactory results, it was quite a question what to give him. I made up my mind, therefore, to try iodalbin on him in combinations with inunctions, and prescribed for him the following treatment:

I had prepared an ointment of the oleate of mercury in white vaseline, equal parts, and instructed him to use this for four consecutive evenings, after a hot bath, using it the first evening on the lower limbs from the ankles up to the knees; the second evening from the knees to the hips; the third evening, the arms; and the fourth evening, the back; and on the fifth evening only the bath, without the ointment, and then to repeat the cycle over again in the same order. I always try to avoid having a patient use mercury inunctions on the chest, for he will rub it on the abdomen also, and this may cause intestinal disturbances and diarrhea.

I told him to go through three such cycles with the inunctions, making twelve in all, and at the same time I gave him iodalbin in five-grain capsules to be taken, one three times a day about two hours after each meal, so that the stomach was not entirely empty nor entirely full. I directed that the capsules be taken with a glass of hot water. I further instructed him to increase the dose of the capsules to two after each meal at the beginning of the second cycle of inunctions, provided he suffered no inconvenience or distress from them, and told him to report to me in two weeks.

When Mr. D. reported to me at the end of the first two weeks of this treatment, he stated that the capsules had caused him no inconvenience, although he had taken two after each meal after the fifth day

of the treatment, and that he thought his headaches were little less severe, not quite so intense, but they still occurred twice a week.

After examining his gums and finding that the inunctions had not affected them at all, I gave him a new supply of ointment and capsules and told him to repeat the treatment for three cycles more, or rather two weeks, when he was to report to me again. When the man reported the next time, he had used the inunctions and iodalbin for a period of one month, and the report was that his headaches were decidedly less intense and occurred only once a week.

This encouraged me very much, but fearing that the continued use of the oleate of mercury in this manner might bring on a case of ptyalism, although his gums were not at all swollen, and knowing that the action of the mercury would go on for some time after its administration was stopped, I told him to discontinue the inunctions, but to keep on with the iodalbin in the same way, two five-grain capsules with a glass of hot water, about two hours after each meal. I also gave him a tonic of nux vomica and compound tincture of gentian, and asked him to report once more in two weeks which he did. This was six weeks from the time I commenced the treatment, and his condition was greatly improved. His headaches were mild and came only once a week.

I then put him again on inunctions, this time the grey ointment of mercury, 50 per cent, in white vaseline, equal parts, which, of course, was twice as strong as the ointment he first used, and the iodalbin was continued as before, and also the tonic. After two weeks of this treatment, or when he had been under treatment for two months, his headache had almost disappeared. He told me that once a week he had a very faint headache that did not amount to anything. I found at this time that his gums were a little swollen and so discontinued the strong inunctions and told him to take only the iodalbin and the tonic. When he reported two weeks later, his headaches had entirely disappeared; the swelling of the gums was considerably reduced and the man was feeling fine. He could eat, drink and sleep and felt very cheerful. I had him continue the use of the iodalbin and the tonic and told him to report after a month. When he returned after the month was up, he was completely well. I discontinued the

iodalbin and told him to use up his bottle of tonic, which he did. I saw this man last about the middle of January, and he was quite well.

IODALBIN IN TUBERCULOSIS.

Case 2. About the first week in November, I was called to the home of Mr. B., an insurance agent. Mr. B. had known me for many years and came to see me about his daughter, a high school girl, about sixteen years old, who was very ill with a cough and general weakness. She had had night sweats for about a month. Several physicians of the neighborhood had attended the case and had given the child various medicaments, without improving her condition. One had diagnosed typhoid fever, and another bronchitis. When I came to examine the child, I decided that she was suffering from incipient tuberculosis. The girl was so weak that she was not able to stand; there were rales in the upper part of both lungs, with expectoration; total absence of appetite; loose bowels; terrible night-sweats. I found that the mother of the patient was opposed to open windows and the air of the room was hot and stifling in the whole flat. I told the mother that if she did not open the windows, at the same time give her daughter more covering in bed, the girl would die. In fact, I thought she would die anyway, she was in such a weak state. The father begged me to try to do something to save his daughter.

After convincing the mother that fresh air must be let into the house, in order to save the child's life, and discontinuing all the narcotic cough mixtures, which had ruined her appetite, I put the little patient on iodalbin, one five-grain capsule, three times a day, a little while after meals, with a glass of hot water. I ordered a liquid peptonized food for her, a tablespoonful to be given every two hours, and all the hot milk she would drink. I also ordered that she be sponged night and morning with alcohol and water for the night-sweats. The girl bore the iodalbin capsules very well, but after a week's treatment, there seemed to be no improvement. The cough continued and the rales, but her bowels had improved right away. I now put her on port wine, a teaspoonful with her food every two hours. After a week's treatment, she began to get an appetite. The rales in both lungs gradually disappeared and by the end of two weeks she was noticeably

improved. At the end of the third week she developed a ravenous appetite and wanted her meals about six times a day. At the end of the fourth week she was able to get out of bed, sit up and walk around and even to do her own hair. During the fifth week the night-sweats became so slight that sponging was necessary only in the mornings.

I now increased the dose of iodalbin to two capsules after each meal and this was well borne. I kept up the two capsules of iodalbin three times a day, the port wine, but discontinued the prepared food up to about Christmas time, when the patient was so much improved that she appeared to be entirely well. I reduced the iodalbin to one casule three times a day, and she is now practically well, going out every day in the fresh air with her mother.

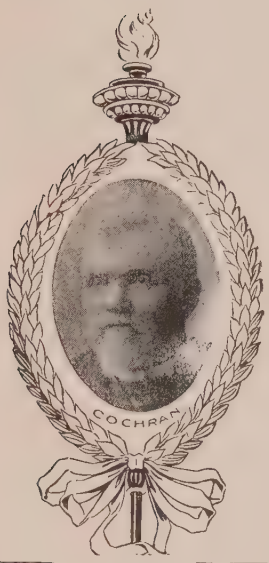
I think the effect of the iodalbin in this case was marvelous, and it is my personal opinion that the child's life was saved by its use. By Christmas the cough had also entirely disappeared.

I have in my care several other cases of secondary and tertiary syphilis and a few cases of tuberculosis in which I am using iodalbin, but these have not progressed far enough so that I can give a fair report of them. However, so far as I have gone with these, the results have been quite satisfactory.

162 Ashland Boulevard.

THE TEACHING OF PHYSICAL DIAGNOSIS.

O. L. Mulot of Brooklyn advocates a more systematic and careful teaching of physical diagnosis to fit the student better for the work of active practice. The author lays out a scheme of charts representing the proper order of examination of the chest and the changes to be found from the normal in various states of health.—*Medical Record,* February 1, 1908.



Editorial.

W. H. BELL, M. D., Editor.

The Journal will be mailed on or about the 15th of the Month. Subscribers failing to receive it promptly will please notify us at once

We cannot promise to furnish back numbers

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Combating a Lingering Pest.

"Judge Feagin fined a physician $100 for concealing a patient who had smallpox. The fine was none too heavy, for the offense was one against the health of the entire city. No person should commit an offense of that nature, least of all a physician, who knows the risks involved.

It is a reflection upon the management of health affairs in this city and county that smallpox is ever present. Not even in the season of sunshine and open doors is it every completely stamped out. This need not be and should not be hereafter.

The action of Judge Feagin will have a good effect, and if the county board of health and the city board of health will do their full duty the foul disease can be driven out. It is driven out of other cities, and Birmingham should take hold of this matter in earnest. The Board of Aldermen and the Board of Revenue have duties to perform in this important matter."

We quote the above recent editorial of a daily paper of this city not to defend the physician fined by Judge Feagin. Rather, we would commend the action of the Judge, and say that the penalty imposed by him for such an offense was very light indeed.

It is the censuring of the profession and particularly the boards of health, by the editor that we wish to call attention to. It is true that smallpox has existed in this city and county for sometime. It is equally true that it can be entirely eradicated if *all* the people are successfully vaccinated. This the profession has been trying to get accomplished for years.

The board of health has called on the authorities to issue orders for compulsory vaccination. The orders have been issued and the health department has been trying to enforce them for several days. It is not the fault of the doctors nor of the board of health that all are not vaccinated. The fault is with the people who refuse to be vaccinated. The law permitting the city and county to enforce compulsory vaccination has not been tested as yet. It is possible that it may be in the near future. We hope it may be tested and be found to be constitutional. There are a great many people who will not consent to vaccination until they are forced to do so, or until they realize that they are in imminent danger of having smallpox.

We think the suggestion made by Dr. Robertson in the February number of the Journal a good one to secure universal vaccination. That is to announce that the board of health will do nothing toward the maintenance of quarantine during the prevalence of smallpox; that we will depend upon vaccination alone as the means of prevention. When the people who are now opposing vaccination run up against a case of smallpox they will then hunt a doctor quickly to be vaccinated.

Minnesota has adopted this plan. We are told that "the surprise of the physicians of the fair State of Minnesota, when the anti-quarantine message was promulgated, was as nothing to the consternation and dismay of the anti-vaccinationists. These gentle faddists and pseudo-scientists had preached their doctrines very bravely so long as armed guards maintained quarantine and protected them from exposure, but when these barriers were torn down and inmates of infected houses were permitted to go about at will, it was quite another matter.

Blatant anti-vaccinationists, who talked loudest in days gone by, were the first to espouse the doctrine of vaccination when the new rule went into effect, and that cult, which was once strong in Minnesota is now said to be scattered to the four winds of heaven—if that be the number of winds that scatter faddish things."

Let us here in Alabama follow Minnesota's example.

The Next Meeting of the Medical Association of the State of Alabama.

The next meeting of the Medical Association of the State of Alabama will be held in Montgomery, April 21-24. The President, Dr. S. W. Welch, is arranging an excellent program, and the meeting promises to be one of the best ever held. Every member who can possibly do so should attend. Let all begin in time to make arrangements to be on hand the first day and stay through the entire meeting. The meetings on the second and third days are always well attended. The first and last days are much more slimly attended. We would urge all to be there when the first session is opened and remain until the adjournment of the last session. Four days is a short time for the busy doctor to take away from his work, although it may seem to him that he can not spare even that much. But he will return after that time spent attending the meeting of his State Association better prepared physically and mentally to do his work.

Remember the place is *Montgomery,* and the time is *April 21st to the 24th.*

The Association of Physicians and Surgeons of the Confederate Army and Navy.

At the time of the Reunion of the Confederate Veterans to be held in this city in June there will be held a meeting of the Association of Physicians and Surgeons of the Confederate Army and Navy. An invitation was extended to this Association last year in Richmond by the Jefferson County Medical Society to hold its meeting here this year. At a recent meeting of the society a committee of arrangements for entertaining the Association was appointed. A committee from Camp Clayton, Sons of Confederate Veterans was also recently ap-

pointed to co-operate with this committee in the entertainment of the old physicians and surgeons. We feel assured that everything possible will be done to make the meeting a pleasant one.

There are only a few of the old physicians and surgeons surviving. Possibly not more than twenty-five or thirty will be in attendance. There are three of the surgeons of the Confederacy now living in Birmingham, Dr. J. C. Abernathy, Dr. J. B. Luckie and Dr. E. H. Sholl.

The Meeting of the Association of the Surgeons of the Southern Railway Company.

We are in receipt of the preliminary program for the meeting of the Association of the Surgeons of the Southern Railway Company, to be held in this city on April 28 to 30. A profitable and interesting meeting is promised. The following are some of the papers to be read:

"The Surgeon, the Patient and the Railroad"—Surgeon J. C. Bogle, Danville, Ky.

"Pot Pouri: The Railway Company, the Local Surgeon and their Peculiar Relations"—Surgeon J. H. Mitchell, Mt. Vernon, Ill.

"Use of Picric Acid in Burns"—Surgeon C. P. Martin, Woodstock, Ala.

"Gunshot Wounds of the Abdomen"—Surgeon C. P. Gordon, Dalton, Ga.

"Duty"—Surgeon F. R. Gobbel, English, Ind.

"Report of Case-Resection of Elbow-Joint"—Surgeon T. H. Hancock, Atlanta, Ga.

"Recent Experience in Railway Surgery"—Surgeon H. C. Crelly, Vinegar Bend, Ala.

"A Condensed and Accurate Method of Keeping Accounts and Records Requiring Medico-Legal Information and Itemized Bills"—Surgeon S. R. Miller, Knoxville, Tenn.

"The Treatment of Ingrowing Toe-Nails"—Surgeon R. J. Noble, Selma, N. C.

"Uses of the Plaster of Paris Cast in the Treatment of Fractures"—Surgeon C. P. Gordon, Dalton, Ga.

"Fractures and Dislocations of the Vertebra"—Surgeon R. L. Payne, Norfolk, Va.

"Demonstration of Hodgen's Splint"—Surgeon T. F. Robinson, Bessemer, Ala.

"The Treatment of the Fracture of the Femur"—Surgeon A. R. Shands, Washington, D. C.

"Modes of Infection in Tuberculosis"—Surgeon J. Howell Way, Waynesville, N. C.

"Rest and Stimulation as Surgical Factors"—Surgeon F. A. Webb, Calvert, Ala.

"Injuries About the Knee-Joint"—Surgeon B. G. Copeland, Birmingham, Ala.

"The Injured Tramp: A Suggestion as to His Disposal"—Surgeon F. J. Carroll, Summerville, S. C.

The Commencement of the Birmingham Medical College.

The commencement of the Birmingham Medical College will be held on April 2nd. There will be a class of sixteen to eighteen graduating. Dr. C. C. Thach, of Auburn, Ala., will deliver the address. This will clase a most successful year of the college.

Marvelous Knowledge of the Ancients.

The following taken from an exchange concerning the "papyrus 'Ebers'" would indicate that we at the present day with all our boasted advances in medicine are not so far in advance of the ancient Egyptians more than 7,000 years ago, as we are sometimes disposed to think.

"This (the papyrus 'Ebers') is a roll of papyrus acquired by Dr. Ebers in the vicinity of Thebes in the winter of 1872 from an Arab who made ancient grave robbing a business, and who had struck a line of rock tombs undiscovered as yet by the others of the guild. He found this roll of papyrus between the legs of a mummy. It was single, tightly rolled, yellow-brown, about a foot wide, and written over for the length of over sixty-feet in regular columns that are numbered. It is exactly preserved, and after investigation and translation was deposited in the library of the University of Leipzig. It was cut in

sections there and placed between glass for purposes of preservation and examination. The script of this papyrus is hieratic—other scripts are hieroglyphic and demotic—a running script in red and black inks. Every heading is in red ink.

By certain signs, especially an almanac on the outside and an inscription which refers to Amenophis I, the date of this papyrus is placed at about 1552 before Christ. But it has been established to the satisfaction of Egyptologists that the paper is but a transcription or copy of an old work, which is put 3,000 years before that and this places the original at a period of over 7,000 years ago.

But the most marvelous matter about this papyrus is that it is a comprehensive treatise on medicine, as well classified and as logically arranged as any modern text-book. The diagnosis of diseases is carefully given, their nature treated of, and the remedies arranged in logical order. Diseases of the abdomen, the chest, the heart, the eyes and ears, and so on, are carefully arranged and described in a manner that would hold water at the present day. For instance, of the heart, the papyrus classifies the troubles as: Fatty degeneration, dilatation, carditis, angina or spasm, hypertrophy, thrombosis, and dropsy. Of medicines over seven hundred different substances are enumerated, and they are prescribed in pills, in tablets, in capsules, in decoctions, powders, inhalations, lotions, ointments, plasters.

The completeness of the work, the close observation, the logical division, and the common sense in treatment manifested in this ancient document are startlingly surprising to the modern man. These ancients had their specialists, just as we. But, above all, is the revelation of much we thought was our own discovery, which, it seems, was known to these Egyptian doctors seven thousand years ago. The anatomical and medical hints in the law of Moses are found closely related to the text of this ancient papyrus, while many of the teachings of Hippocrates are derived from it.

Seven more rolls of papyrus on medical science have been found. but none as complete and ancient as this. The others are in Berlin, London, Leyden, Turin, Brobeck and Liepzig.

Personal Notes.

Dr. R. J. Hargrove, of Tuscaloosa, was visiting in this city on the 7th inst.

Dr. T. H. Payne, a prominent physician of Saginaw, was a visitor in Birmingham a few days ago.

Dr. T. J. Bickley has recently removed from Calera to Birmingham, where he will resume the practice.

Dr. J. G. Pope, of Coleman, Texas, is visiting relatives in this city and honored us with a call recently. The Doctor is resting and recuperating his health.

Dr. James S. McLester, 830 South Twentieth St., Birmingham, wishes to announce that he will be absent from his office for purposes of study October 1, 1907, to October 1, 1908.

Dr. B. D. Sibley announces that he has moved his office to the second floor of the First National Bank Building, rooms 227 and 228, where he will continue the practice of eye, ear, nose and throat work.

We enjoyed recently a call from our old friend, Dr. R. D. Jackson, who is living now in this city, having retired from active practice. The Doctor is one of the oldest members and counsellors of the State Medical Association.

Other doctors who have recently been in Birmingham are Dr. J. S. Williamson, of Coleanor; Dr. R. H. McGhee, of Abernant; Dr. C. P. Martin, of Woodstock; Dr. M. C. Thomas, of Bell Ellen; Dr. J. F. Alexander, of Blocton; Dr. J. L. Granberry, of Pell City, and Dr. D. L. Wilkinson, of Montevallo.

Dr. J. H. Sadler, of Montgomery, while attending a meeting of the Montgomery Medical Society, having just entered the hall and greeted the members, died suddenly on the 7th inst. He was sixty years of age, and a native of South Carolina. For the past fifteen years he has practiced in Montgomery. Previously he had practiced in Arkansas and Uniontown, Ala.

LECTURE AT THE NEW YORK SKIN AND CANCER HOSPITAL.

The Governors of the New York Skin and Cancer Hospital announce that the following lectures will be given in the Out-Patient Hall of the Hospital on Wednesday afternoons, at 4:15 o'clock.

Dr. L. Duncan Bulkley—Pathology in its practical bearing upon the treatment of certain diseases of the skin, March 4th; also clinical lectures on diseases of the skin, until April 15th.

Dr. William Seaman Bainbridge—On the treatment of unremovable cancer, with exhibition of cases, April 22nd, 1908.

The lectures will be free to the medical profession.

THE WOMEN PHYSICIANS AT THE CHICAGO MEETING OF THE A. M. A.

The Women Alumnae Committee, the Woman's Medical Society of the State of Illinois, and the Medical Woman's Club of Chicago, each wish to entertain the women physicians visiting Chicago at the meeting of the American Medical Association, next June.

As the session of the American Medical Association is so short and the time so entirely filled, these three organizations have combined efforts, and hereby extend to all the women physicians who will be in Chicago at that time, a most cordial invitation to a banquet and entertainment to be given on the evening of June 2nd, which is the evening that has been reserved for the special entertainment of the visiting alumni.

At this banquet a special feature will be made of the reunions of the Alumnae of the different colleges.

The College Club in the Fine Arts Building No. 203 Michigan Boulevard, will be exclusively at the disposal of the medical women during the meeting of the A. M. A., and will afford a place for them all to meet, lunch and visit together.

PRIZES OFFERED IN CONNECTION WITH THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

The Central Committee of the International Congress on Tuberculosis has announced the offer of the following prizes:

I. A prize of $1,000 is offered for the best evidence of effective

work in the prevention or relief of tuberculosis by any voluntary Association since the last International Congress in 1905. In addition to the prize of $1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award.

Evidence is to include all forms of printed matter, educational leaflets, etc., report showing increase of membership, organization, classes reached—such as labor unions, schools, churches, etc.; lectures given; influence in stimulating local Boards of Health, schools, dispensaries, hospitals for the care of tuberculosis; newspaper clippings of meetings held; methods of raising money; method of keeping accounts.

Each competitor must present a brief or report in printed form. No formal announcement of intention to compete is required.

II. A prize of $1,000 is offered for the best exhibit of an existing sanatorium for the treatment of curable cases of tuberculosis among the working classes. In addition to the prize of $1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award.

The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

III. A prize of $1,000 is offered for the best exhibit of a furnished house, for a family or group of families of the working class, designed in the interest of the crusade against tuberculosis. In addition to the prize of $1.000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. This prize is designed to stimulate efforts towards securing a maximum of sun-light, ventilation, proper heating, and general sanitary arrangement for an inexpensive home. A model of house and furnishing is required. Each competitor must present a brief with drawings, specifications, estimates, etc., with an explanation of points of special excellence. Entry may be made under competitor's name.

IV. A prize of $1,000 is offered for the best exhibit of a dispensary or kindred institution for the treatment of the tuberculous poor. In addition to the prize of $1,000, two gold medals and three silver medals

will be awarded. The prize and medals will be accompanied by diplomas or certificates of award.

The exhibit must show in detail construction, equipment management, and results obtained. Each competitor must present a brief or report in printed form.

V. A prize of $1,000 is offered for the best exhibit of a hospital for the treatment of advanced pulmonary tuberculosis. In addition to the prize of $1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award.

The exhibit must show in detail construction, equipment, management and results obtained. Each competitor must present a brief or report in printed form.

VI. The Hodgkins Fund Prize of $1,500 is offered by the Smithsonian Institution for the best treatise that may be submmitted on "The Relation of Atmospheric Air to Tuberculosis."

The detailed definition of this prize may be obtained from the Secretary-General of the International Congress or Secretary of the Smithsonian Institution, Chas. D. Walcott.

VII. Prizes for Educational Leaflets:

A prize of $100 is offered for the best educational leaflet submitted in each of the seven classes defined below. In addition to the prize of $100, a gold medal and two silver medals will be awarded in each class. Each prize and medal will be accompanied by a diploma or certificate of award.

Competitors must be entered under assumed names.

A. For adults generally (not to exceed 1,000 words).
B. For teachers (not to exceed 2,000 words).
C. For mothers (not to exceed 1,000 words).
D. For in-door workers (not to exceed 1,000 words).
E. For dairy farmers (not to exceed 1,000 words).
F. For school children in grammar school grades (not to exceed 500 words).

In classes A. B, C, D, E, and F, brevity of statement without sacrifice of clearness will be of weight in awarding. All leaflets entered must be printed in the form they are designed to take.

G. Pictorial booklet for school children in primary grades and for the nursery.

Class G. is designed to produce an artistic picture-book for children, extolling the value of fresh air, sun-light, cleanliness, etc., and showing contrasting conditions. "Slovenly Peter" has been suggested as a possible type. Entry may be made in the form of original designs without printing.

VIII. A gold medal and two silver medals are offered for the best exhibits sent in by any States of the United States, illustrating effective organization for the restriction of tuberculosis. Each medal will be accompanied by a diploma or certificate of award.

IX. A gold medal and two silver medals are offered for the best exhibits sent in by any State or County (the United States excluded), illustrating effective organization for the restriction of tuberculosis. Each medal will be accompanied by a diploma or certificate of award.

X. A gold medal and two silver medals are offered for each of the following exhibits; each medal will be accompanied by a diploma or certificate of award; wherever possible each competitor is required to file a brief or printed report:—

A. For the best contribution to the pathological exhibit.

B. For the best exhibit of laws and ordinances in force June 1st, 1908, for the prevention of tuberculosis by any State of the United States. Brief required.

C. For the best exhibit of laws and ordinances in force June 1st, 1908, for the prevention of tuberculosis by any State or Country (the United States excluded). Brief required.

D. For the best exhibit of laws and ordinances in force June 1st, 1908, for the prevention of tuberculosis by any municipality in the world. Brief required.

E. For the society engaged in the crusade against tuberculosis having the largest membership in relation to population. Brief required.

F. For the plans which have been proven best for raising money for the crusade against tuberculosis. Brief required.

G. For the best exhibit of a passenger railway car in the interest of the crusade against tuberculosis. Brief required.

H. For the best plans for employment for arrested cases of tuberculosis. Brief required.

XI. Prizes of two gold medals and three silver medals will be awarded for the best exhibit of a work-shop or factory in the interest of the crusade against tuberculosis. These medals will be accompanied by diplomas or certificates of award.

The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

The following constitute the Committee on Prizes:

Dr. Charles J. Hatfield, Philadelphia, *Chairman*
Dr. Thomas G. Ashton, Philadelphia, *Secretary*
Dr. Edward R. Baldwin, Saranac Lake
Dr. Sherman G. Bonney, Denver
Dr. John L. Dawson, Charleston, S. C.
Dr. H. B. Favill, Chicago
Dr. John B. Hawes, 2nd., Boston
Dr. H. D. Holton, Brattleboro
Dr. E. C. Levy, Richmond, Virginia
Dr. Charles L. Minor, Ashville, N. C.
Dr. Estes Nichols, Augusta, Me.
Dr. M. J. Rosenau, Washington
Dr. J. Madison Taylor, Philadelphia
Dr. William S. Thayer, Baltimore
Dr. Louis M. Warfield, St. Louis

Book Notices.

Treatment of Internal Diseases For Physicians and Students. By Dr. Norbert Ortner of the University of Vienna. Edited by Nathaniel Bowditch Potter, M. D., Visiting Physician to the New York City Hospital, to the French Hospital, and to the Hospital for Ruptured and Crippled; Instructor in Medicine Columbia University. Translated by Frederick H. Bartlett, M. D., from the fourth German Edition. Philadelphia and London, J. B. Lippincott Company.

This volume is the English translation from the last, the fourth ed-

ition of Ortner's Lectures upon the Therapeutics of Internal Medicine. These lectures were first offered in 1897 as the results of the author's nine years' uninterrupted hospital service. As the title indicates it is almost strictly a book of treatment. Not much space is taken up with prophylaxis. Pathological physiology of the diseases is discussed only as it bears on their rational treatment. The author "emphasizes throughout the volume the imortance of the mechanical, dietetic, climatic, hydrotherapeutic, and other extra-medicinal methods, with judicious reasons for those selected, and follows these with a discussion of the applicability of certain drugs, their respective advantages, disadvantages, and limitations, adds useful prescriptions from his own experience and that of others, and leaves the reader better armed to meet etiological indications and the various contingencies which arise and require sympathetic treatment." He takes up in the first chapter the therapy of diseases of the circulatory organs, those of the genito-urinary tract in the second; those of the blood and metabolism follow in the third and fourth; those of the mouth, larynx, bronchi and pluera follow in order; those of the stomach and intestines are then taken up. Dr. Potter, the editor, gives the final chapter on the therapy of neurasthenia. In addition to this chapter the editor has done his work well, adding notes, suggestions or criticisms throughout the work. We commend it as a useful, practical book to both physician and student.

PAMPHLETS AND BOOKS RECEIVED.

The Archives of Diagnosis. A Quarterly Journal devoted to the study and the progress of diagnosis and prognosis. January, 1908. Edited by Heinrich Stern, N. Y. Published by The Archives of Diagnosis, 250 West 73rd St., New York. $1.00.

Annual Report of The Surgeon-General of the Public Health and Marine-Hospital Service of the U. S. for the fiscal year, 1907. Washington Government Printing Office. 1908.

Milk and Its Relation to the Public Health. By various authors. Hygienic Laboratory. Bulletin No. 41. N. J. Rosenan, Director. January, 1908. Washington Government Printing Office.

Thirtieth Annual Report of the Department of Public Health.. Augusta, Ga. 1908.

The Battle Creek Sanitarium System. History, Organization, Methods. By J. H. Kellogg, M. D., Supt. Battle Creek, Mich. 1908.

1. Deviations and Deformities of the Nasal Septum; with Special Reference to Possible Results following the Submucous Operation.

2. Nasal Catarrh, Mouth Breathing, Hay Fever and Astma.

3. Channels of Infection in Tuberculosis. By Bryan De F. Sheedy, M. D., Instructor in Diseases of the Nose and Throat in the New York Post-Graduate Medical School and Hospital.

Bacterial Vaccines, Wright's Opsonic Theory and Its Practical Application. H. K. Mulford Company, Philadelphia.

The Duality of Man. By C. G. Savage, M. D., Nashville, Tenn. Reprint from Jour. A. M. A., June 15, 1907.

A Suggestion to General Practitioners in Regard to Charges for Professional Services to Important Medical Cases. By D. W. Cathell, M. D., of Baltimore.

The Supposed Relationship of White Snakeroot to Milk Sickness, or "Trembles." By Albert C. Crawford. Washington, Government Printing Office. 1908.

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1. The Treatment of Congenital Syphilis in Infancy.

2. A Note on the Reducing Power of Urine following the Administration of Urotropin.

3. Acute Non-Suppuration Encepalitis in Children.

4. Urinary Infection in Children.

5. Hemorrhage into the Spinal Meninges. By I. A. Abt, M. D., Chicago.

Seventh Annual Report of the New York State Hospital for the Care of Crippled and Deformed Children, for the year ending Sept. 30, 1907. Located at West Harverstraw, N. Y. 1907.

Miscellaneous Notes.

URETHRAL INFLAMMATION.

Usually the only treatment needed to cure urethritis is to administer sanmetto and alkalies, with an occasional purge, and very mild injections of chloride of zinc.

BEDSIDE EXPERIENCE.

The best test, both pharmacological and ethical, for a medicine is bedside experience. For what avail is a laboratory product based upon a fine-spun theory in chemistry if it does not work out results in the laboratory of nature, the human body? Or why wrangle over the "ethics" of a remedy which accomplishes results in healing disease? To heal one's patient is the best ethics. Send to Od Chem. Co., 61 Barrow St., New York City, for "Laboratory Results Supported by Bedside Experience."

CLINICAL POPULARITY.

Llewellyn Eliot, A. M., M. D., Surgeon to Providence Hospital and Eastern Dispensary, and President of the Medical Association of the District of Columbia, etc., Washington, D. C., in an article read before the Section on Obstetrics, said: "In irrigating these cases, we may use the solution of bichloride of mercury, carbolic acid or any other medication which individual preference may suggest; for my part, I employ a solution of Tyree's Antiseptic Powder, which is non-poisonous." What can better attest its high reputation than the fact that recognition is given by so high an authority? A trial package will be mailed free of charge to physicians if they will send their name and address to Mr. J. S. Tyree, Chemist, Washington, D. C.

ON THE USE OF DRUGS IN DISEASES OF THE HEART.

At a special meeting of the Medical Association of the Greater City of New York, Dr. Reynold Webb Wilcox, in discussing the action of different drugs on the heart, said (Medical Record Feb. 8, 1908): "There was only one drug which both increased the force and frequency of the pulse, and that was Cactus. It was especially useful in neurotic

heart and slow heart. If an active preparation was used, and such was readily found in the shops, brilliant results were obtained in approriate cases." Cactina Pillets are manufactured in our laboratory under the personal supervision of a pharmacutical chemist, and we can assure the medical profession that Cactina Pillets express the excellent therapeutic properties of the true Cereus Grandiflorus in the fullest and in the most perfect and convenient form. Sultan Drug Co.

BROMIDE INSURANCE.

Among the chemists who have testified to the purity of the salts entering the composition of Peacock's Bromides particularly as to its extraordinary freedom from chlorides and the absence of other usual impurities, are names of such eminent men as Edward H. Keiser, Ph. D., Professor of Chemistry Washington University; H. Helbing, F. C. S., and F. W. Passmore, Ph. D., of London, England; Charles E. Caspari, Ph. D., Professor Chemistry St. Louis College of Pharmacy; and Edward Gudeman, Ph. D., Chicago, Ill.

Thus when a physician prescribes Peacock's Bromides he has the benefit of Bromide Insurance, as the preparation can be depended on to give the best possible results obtainable from bromides.

Peacock's Bromides is a mixture of bromides of Potassium, Sodium, Ammonium, Calcium and Lithium, 15 grains combined in each fluid drachm and equivalent in dosage to 15 grains of potassium bromide.

WINTER COUGHS—GRIPPAL NEUROSES.

That codeine had an especially beneficial effect in cases of nervous cough, and that it was capable of controlling excessive coughing in various lung affections, was noted before its true physiological action was understood. Later it was clear that its power as a nerve calmative was due, as Bartholow says, to its special action on the pneumogastric nerve. Codeine stands apart from the rest of its group, in that it does not arrest secretion in the respiratory and intestinal tract. In marked contrast is it in this respect to morphine. Morphine dries the mucous membrane of the respiratory tract to such a degree that the condition is often made worse by its use; while its effect on the intestinal tract is to produce constipation. There are none of these disagreeable effects attending the use of codeine.

Antikamnia has also stood the test of exhaustive trial, both in clinical and regular practice and has been proven free from the usual untoward after-effects which accompany, characterize and distinguish all other preparations of this class. Therefore antikamnia & codeine tablets afford a very desirable mode of exhibiting these two valuable drugs. The proportions are those most frequently indicated in the various neuroses of the larynx as well as the coughs incident to lung affections, grippal conditions, etc.—*The Laryngoscope.*

PUBERAL ANEMIA.

Broad clinical experience certainly tends to support the opinion of many medical men that chlorosis is practically limited to the female sex, and to these during the child-bearing period. As is well known, chlorosis is hardly a true anemia, inasmuch as it consists rather of a decrease of hemoglobin than any marked or constant diminution in either the corpuscles or mass of the blood. There is a true anemia, however, which occurs at or about puberty and is common to both sexes. This may properly be spoken of as a puberal anemia and manifests itself by both oligocythemia and oligemia. Young men as well as young women are attacked and the cause seems to rest on actual structural deficiencies rather than on emotional influences, as is generally believed to be the case in chlorosis. It is slow and insidious in its onset and is characterized by a pallor or bloodless appearance quite different from the greenish color of chlorosis. Examination of the blood shows a greater or less decrease of hemoglobin, but unlike chlorosis, the red cells and total quantity of the blood are lowered very markedly. Strange to say however, the specific gravity is usually raised in puberal anemia, while in chlorosis it is generally lowered.

One pronounced clinical symptom referable to the pulse, according to a prominent English authority, will moreover be found in puberal anemia, which is not common in chlorosis. In anemias of failing quantity, such as puberal anemia, the pulse is almost invariably feeble and empty, while in chlorosis it is often dull and even of quite excessive pressure.

The type of anemia under discussion is probably due to

(1) Excessive demands on, or actual destruction of the blood elements.

(2) Deficient renewal of its elements.

(3) Or both.

The first is a sequence of some disease like fever or toxemia; the second of inanition or malnutrition; and the third of some wasting process, which not only depreciates the blood, but by lowering functional activity militates against any physiological tendency to restoration.

In any instance the paramount need is to stimulate hematopoiesis, and for immediate and satisfactory effect in this direction Pepto-Mangan (Gude) has been found of very great value. Under its administration, the hematogenic function is actively increased and the appetite and general nutrition rapidly raised. The digestion is improved and never embarrassed—a statement that can be made of none of the inorganic preparations of iron.

It goes without saying that the best of hygiene, good food and as much outdoor life as possible should also be prescribed in the treatment of puberal anemia. The condition if allowed to continue is always dangerous, principally because of its predisposing tendencies to graver disease; but the results of the treatment recommended are usually so prompt and decisive that there is rarely any excuse for its not being controlled. At any rate, "It is the stitch in time" that saves serious trouble, and Pepto-Mangan (Gude) in this class of cases will be found a very dependable stitch.

A NEW METHOD OF TESTING THE FUNCTIONS OF THE DIGESTIVE APPARATUS.

Einhorn (Therapeutic Gazette, January, 1908) submits a method for investigating the functions of the intestinal tract, the principle of which is the administration of test substances with the food and observation of the effects of the digestive fluids upon these substances.

Practically this test is made as follows: Patients are given in a gelatin capsule a string of beads with the following substances attached thereto: catgut, fish-bone, meat, thymus, potato, mutton fat. After administering the capsule, every stool is examined with the stool-sieve until the beads-string has been recovered. If diarrhea is present the sifting may not be necessary, as the bead-string can readily be seen (usually at the bottom of a glass vessel).

Under normal conditions the bead-string appears after one or two days. It is then rinsed in cold water and examined. If digestion is normal we find that catgut, meat, and potato (except the skin) disappear entirely, thymus and fat almost entirely, whereas the fish-bone usually disappears, but occasionally it may be present. The nuclei of the thymus always disappear. In pathological conditions deviations from the normal are observed, not only in regard to the time of recovery of the beads (disturbances of motility), but also in regard to the presence of the food substances (disturbances of the digestive function).

The author divides his cases of intestinal digestive disturbances into two groups:

1. Those of pure nervous intestinal dyspepsia.
2. Those of genuine intestinal dyspepsia.

In that great class of cases of intestinal dyspepsia, in which the starch digestion alone is disturbed, Taka-Diastase (Takamine) has prov- of especial value.

"Meatox is not an Extract of Beef.

"It is not a Predigested Food.

"IT IS THE FIBRE OF LEAN BEEF, STERILIZED AND DRIED.

"It is free from preservatives, but keeps fresh indefinitely in unsealed containers. It is more easily digested than egg albumen.

"It is palatable. It can be administered either in its original granulated form or else mixed with soft boiled eggs, hominy, oat meal, soup, broth, or any kind of food which may agree best with the patient. One ounce of MEATOX is equal to about five ounces of the best lean beef for its nutritive value."

The correctness of the above statement is shown by the analytical and physiological reports made by I. V. S. Stanislaus, B. Sc., Pharm. D. He says:

"Meatox is a pale yellow, granular powder, having the odor and taste of celery, with which it is flavored.

"Its composition, according to my analysis of March 28, 1907, is as follows: 73.54 per cent. of proteids, 4.5 per cent. of salts and 12 per cent. of fats.

"It does not dissolve in cold water, but imparts to the water an opaque color. When applied in a solution to the frog's heart it increases the rapidity of the beat for a short time, then makes the beat stronger.

"The effect on blood-pressure in the human subject was noted. A man was fed on Meatox, bread and butter, water, a little hot tea, without milk, and fruits and berries with a little sugar for ten days. Blood-pressure was estimated with a Rivi-Rocci sphygmomanometer, the systolic pressure being only recorded. Before starting in on the Meatox diet, the radial systolic pressure was 115 millimeters of mercury, while at the close of the diet the radial systolic pressure was 118 millimeters of mercury.

"The effect of Meatox was tried on intestinal peristalsis. The effect was studied after the method of Professor Magnus, of Heidelberg. A piece of the small intestines of about 10 centimeters in length was taken from a rabbit. This was placed vertically in a glass containing about 225 cubic centimeters of a modified Ringer fluid kept to the temperature of 37.5° C. One end of the intestine was attached to an L-shaped glass rod by means of an S-shaped pin hook, and the other end to a Porter's heart lever slightly weighted.

"Oxygen was allowed to pass through the solution all the time. Before the Meatox was added contractions were recorded, to get about as near normal contractions as possible. About 2 decigrams of Meatox were then added, and it was noted that the tonus of the contractions increased, but the frequency remained about the same. When larger doses of Meatox were added to the intestine the frequency became a little slower, but the tonus and force of contractions increased quite markedly.

"The effect on voluntary muscles was studied by soaking the gastrocnemius muscle of a frog in a watery solution of Meatox. The muscles were allowed to soak in this for various lengths of time, ten or fifteen minutes being the usual periods.

"The recording of the effect of a maximal break electric shock was noted on a smoked drum by means of a Porter's muscle lever and moist chamber. The muscles contracted very rapidly. Both the systole and diastole were very rapid, and when a strong tetanizing current was added it was noted that the contractions became stronger after the current

was on for a few seconds. Return to the normal was gradual. From this it appears to assist in muscular contraction.

"These deductions convince that Meatox as a concentrated food is an easily digested, assimilated and sustaining condiment. It is the first in the field of foods as a true, highly-organized proteid food."

IRRITABLE BLADDER.

The condition commonly spoken of as bladder-irritability is often very troublesome, and not infrequently difficult to relieve. The causes are many, but in every instance the primary object to be sought in treatment is to render the urine bland and antiseptic. Of the remedies that have been suggested for this purpose, none gives more prompt and satisfactory relief than cystogen-lithia. The use of this product is quickly followed by a change in the character of the urine, and an alleviation of the irritable condition of the mucous membrane. Micturition becomes less frequent and the smarting and burning disappear. Cystogenlithia is particularly useful in conditions where the bladder does not completely empty itself.—*Int. Journal of Surgery.*

THE PUBLIC HEALTH.

During the past year we have called attention editorially to two urgent public needs: measures for securing physical fitness in those upon whose occupations depends the safety or damage of the lives and limbs of many persons, and the necessity for federal supervision and interest in hazardous trades and occupations in which many lives are jeopardized. The time will come when these two matters will receive abundant attention. In the meantime we may labor to advantage to shorten the interval between now and that happy day.

As an example of what is going on in the direction of the unnecessary destruction of lives we may cite a recent report of Mr. Holmes, chief of the Technical Branch of the Department of the Interior. He reports some 23,000 lives lost in the United States through mine explosions during a period of less than eighteen years. These disasters, he says, are due to lack of proper regulations, ignorance, and carelessness.

The recent Monongah and Connellsville disasters come under the easily prevented category.

But it is a far cry from the Department of the Interior to the saving of human lives or public health. There is a great profession and a science devoted to the saving of human lives, study of this subject has been in progress by this profession since the dawn of civilization, but the Department of the Interior has little or no relation to it. When we have a national department whose specific function is the preservation of life we shall be approaching the sensible solution of this question, and not until then.

That paragraph in the last annual message of President Roosevelt, which refers to this subject, is a gleam of light of transcendent brightness shed upon the wilderness of official documents. It reveals that the federal government is at last awake to the need of consideration of the public health. Here is the paragraph referred to:

There is a constantly growing interest in this country in the question of the public health. At last the public mind is awake to the fact that many diseases, notably tuberculosis, are national scourges. The work of the State and city boards of health should be supplemented by a constantly increasing interest on the part of the national government. Congress has already provided a bureau of public health and has provided for a hygienic laboratory. There are other valuable laws relating to the public health connected with the various departments. This whole branch of the government should be strengthened and aided in everyway.

This is but a suggestion and does not imply the organization of any new department, but it does show the President's interest in public health, and it is to be hoped and expected that further enlightenment soon will result in something more positive. If the Chief Executive has studied and recommended means for preserving the forests, it is not too much to presume that the same attention may some day be accorded to the sons of men.—*N. Y. State Jour. of Med.*